

MARCH, 1959
VOL. I, NO. 11

Problems of Economics

ВОПРОСЫ ЭКОНОМИКИ

English Translation of the U.S.S.R. Monthly Journal VOPROSY EKONOMIKI

IN THIS ISSUE

Soviet Economy in a New Upsurge

A Fighting Program of Struggle for Peace and Socialism

Concerning Expanded Reproduction of Skilled Labor in the USSR

Reducing the Volume of Incompleted Construction — an Essential
Economic Task

Some Problems of Amortization in Agriculture

The Problem of Opening Credits for Capital Investment

The Role of India's Economic Collaboration with Countries of
the Socialist Camp in the Development of India's Economy

The Econometric Trend in Bourgeois Political Economy

UNIVERSITY OF HAWAII
LIBRARY

MAY 26 '59

The Journal of the U.S.S.R. Academy of Sciences, Institute of Economics

AUTHORIZED TRANSLATOR AND PUBLISHER . . .

INTERNATIONAL ARTS AND SCIENCES PRESS

33 WEST 42nd STREET • NEW YORK 36, N. Y.



Problems of Economics

TABLE OF CONTENTS

L. I, NO. 11

MARCH, 1959

VOLODARSKY: Soviet Economy in a New Upsurge	Page 3
LOSCHAKOV: A Fighting Program of Struggle for Peace and Socialism	8
GUBAREVA: Concerning Expanded Reproduction of Skilled Labor in the USSR	14
SOKOLOV: Reducing the Volume of Incompleted Construction—an Essential Economic Task	19
PAKHOMOV: Some Problems of Amortization in Agriculture	26
KAZANTSEV and I. LEVCHUK: The Problem of Opening Credits for Capital Investment	33
KONDRATYEV: The Role of India's Economic Collaboration with Countries of the Socialist Camp in the Development of India's Economy	40
LYUMIN and V. SHLYAPENTOKH: The Econometric Trend in Bourgeois Political Economy	45

DISCUSSIONS AND DELIBERATIONS

MANYAKIN and A. SILIN: Methods of Calculating the Costs of Production of Agricultural Products by the Collective Farms	53
---	----

CRITICISM AND BIBLIOGRAPHY

KADYSHEV: Theoretical Problems of Financing under Socialism and Capitalism	60
BAKLANOV: A Book on Methods of Measuring Labor Productivity	63
VOLKOV and B. GREBENNIKOV: Soviet-Chinese Economic Collaboration	66
Economic Literature Published in the German Democratic Republic	69

SURVEYS

Rising Prosperity and Cultural Standards of the Workers in the Peoples Democracies	72
--	----

NOTES AND CORRESPONDENCE

KAROTAMM: Reappraisal of Capital Property of the Collective Farms Is Needed	88
BUDAVEI and S. POLOVENKO: An Important Condition for Machine Maintenance on the Collective Farms and Improving their Use	89
TUMANOVA: The Problem of Increasing Labor Productivity on Grain Farms	91
KRYLOVA: New Forms of Recording Labor Time on the Collective Farms	93
MOROZOV: On One Attempt at an Account of the Political Economy of Feudalism	95

SCIENTIFIC LIFE

Publication of the Third Revised Edition of the Textbook "Political Economy"	99
INSKY: On the Results of the Conference on the Development of the Productive Potential of Eastern Siberia	99
AZAROV: Research Work by Economics Instructors of Irkutsk	103

PROBLEMS OF ECONOMICS

English Translation of the U.S.S.R. Journal *Voprosy Ekonomiki*

EDITOR AND PUBLISHER: MYRON E. SHARPE

Problems of Economics is the English language translation of *Voprosy Ekonomiki*, journal of the Institute of Economics, U.S.S.R. Academy of Sciences. The translation is authorized by arrangement with Mezhdunarodnaya Kniga, Moscow.

Problems of Economics is a complete, literal translation, without editorial comment, of *Voprosy Ekonomiki*.

Twelve issues per year. Subscription rate: \$50.00 per year (twelve issues); \$4.50 per copy. \$20 per year to persons associated with institutions already subscribing.

Editorial Collegium of the U.S.S.R. Journal *Voprosy Ekonomiki*:

L. M. Gatovsky (Chief Editor), P. A. Galubkov, N. N. Dyakonov, V. P. Dyachenko, A. E. Yezhov, V. A. Zhamin, A. G. Kulikov, A. N. Lavrishchev, A. P. Liapin, M. E. Moiseyev, G. A. Prudensky, T. S. Khachaturov. Technical Editor: O. Shvova.

Editorial Office: Volkhonka 14, Moscow, U.S.S.R.

The names of the editors and the editorial address of *Voprosy Ekonomiki* are given as a matter of information. The editors of *Voprosy Ekonomiki* have no connection with the translation and publication of the journal in English.

INTERNATIONAL ARTS AND SCIENCES PRESS
33 West 42nd Street, New York 36, N. Y.

© Copyright 1959 by Myron E. Sharpe. All rights reserved.

. Volodarsky:

Soviet Economy in a New Upsurge

The peoples of the Soviet Union, the whole Socialist camp and the whole of progressive mankind observed the 41st anniversary of the Great October Socialist Revolution. The year of 1958 constitutes a new bright page in the chronicle of workers' victories achieved in all sections of economic and cultural construction. Putting into effect the grandiose program, worked out by the Communist Party, the Soviet people achieved new successes in the growth of industrial and agricultural production and in the strengthening of our country. The people's material and cultural level of life is raised and their welfare increased. Once more the Socialist system has demonstrated its undisputable advances in the economic competition of socialism with capitalism.

As early as October, 1922, V. I. Lenin pointed out that the new social regime will make it possible for Soviet Russia to catch up with the highly developed capitalist countries at an undreamed-of speed. He said: "No one here will believe that a fantastic speed of change is possible; but we believe in a realistic speed, a high speed compared to any period of historical development, in a high speed of development when the movement is guided by a really revolutionary party; and we shall achieve this speed at any price." (Works, Vol. 33, p. 355).

The history of the economic development of our country and of all countries of the socialist camp has brilliantly confirmed Lenin's scientific prediction. In the volume of industrial production the Soviet Union has left behind such large European capitalist countries as Great Britain, France and Western Germany, and is confidently catching up with the United States. During the eleven prewar and eleven postwar years the average rate of industrial production growth in the USA was only 2.7% while in the Soviet Union it was 16.2%. Now the Soviet Union is ahead of the USA not only in the rate of industrial production growth, but also in the absolute increase of production in a number of important products. Between 1953 and 1957 the average annual growth of pig iron production was 0.8 million tons in the USA and 2.4 million tons in the USSR; the corresponding figures for steel are 0.3 million tons and 3.28 million tons; for cement, 1.2 million tons and 3.2 million tons; for oil, 1 million tons and 11.4 million tons. While in the USA the average annual production of woollen fabrics during the same period was reduced 10.8 million meters, in the USSR it increased 18.6 million meters. The difference in the rate of industrial production growth makes us confident that in the near future the Soviet Union will overtake the USA in the volume of production of essential products.

As a result of the high rate of industrial production growth the per capita production of industrial products increased markedly compared with the prerevolutionary period, as may be seen from the following table:

Per Capita Production of Important Goods in the USSR

	1913	1957
Pig iron	30.0 kg.	182.0

	1913	1957
Steel	30.0 kg.	251.0
Rolled steel	25.0 kg.	197.0
Coal	209.0 kg.	2,272.0
Petroleum	66.0 kg.	482.0
Power	14.0 kwh	1,028.0
Leather footwear	0.4 pairs	1.5
Granulated sugar	9.7 kg.	22.0
Canned goods (reduced to common units)	0.7 cans	18.6

During this period the per capita industrial production increased in the USSR 23 times; in the USA it increased only 2.3 times; in Great Britain 1.6 times; and in France 1.87 times.

The economic plan of 1958 is being carried out successfully and, for some targets, has been overfulfilled. The total volume of industrial production in 1958 will exceed the 1913 level 36 times and of the means of production 81 times. The USSR now produces as many goods every ten days as the prerevolutionary Russia produced in the whole of 1913. A high rate of economic growth is the most important condition for the solution of the USSR's basic economic task in the shortest historical time.

Thanks to the measures carried out by the Party and the government, in recent years the development of such key branches of industry (upon which the growth of the whole Soviet economy depends) as fuel, ferrous and nonferrous metallurgy, chemicals, and machine building has been speeded up. The development of these branches is characterized not only by the rapid growth of production, but also by important changes in the technique and organization of production.

The radical change in the structure of fuel consumption is of great importance for the whole national economy. Production of fuel (as converted into theoretical units) in 1958 is almost 14 times the 1913 level. For a long period, in the total fuel consumption of the Soviet Union, the share of coal was increasing. In 1950 coal constituted 2/3 of the fuel output. The Party took steps to change the structure of fuel production. To achieve this, such important branches of the fuel industry as petroleum and gas production are being developed at a forced rate. While, on the average, production of coal between 1953 and 1957 was increased by 7.8%, the annual production of petroleum was increased 16.8% and of natural gas 28.2%. The speeded-up development of the petroleum and gas industry makes it possible to supply the national economy with the most effective kinds of fuel and increases considerably the productivity of social labor.

The successful progress of the whole national economy depends upon the rate of growth of ferrous and non-ferrous metallurgy. The Soviet Union now produces several times more of various metals than prerevolutionary Russia. We shall produce, in 1958, 39 million tons of pig iron; about 55 million tons of steel; and 43 million tons of rolled steel. We now produce more steel than Great Britain, the Federal

Republic of Germany and Sweden together. However, the development of ferrous metallurgy was delayed for some time because of the slow growth of iron ore production. The Communist Party and the Soviet government took measures to develop the existing bases of iron ore production and to establish new ones, so that conditions for the rapid growth of ferrous metallurgy in the USSR have become favorable. We are also carrying out important measures to increase the production of non-ferrous metals necessary for the development and improvement of social production.

The Soviet machine-building industry can be credited with great accomplishments. In 1958, the volume of production of the machine building and metal manufacturing industry exceeded the 1913 level almost 240 times. The rate of machine-building development, compared with other branches of national economy, is the highest, and this is quite normal because this branch serves as the technical base for the development of the whole economy. The designing of the latest kinds of machines, mechanisms, apparatuses and appliances contributes to the further improvement of socialist production and of labor conditions, increasing its productivity.

The achievements of our power production industry are well known. Following Lenin's commandments concerning comprehensive electrification of our country, we attained great successes in the development of this vital branch of economy. The following figures speak for themselves: in 1913 Russia produced only 1.9 billion kwh of power; this year the USSR's power stations will produce more than 230 billion kwh. Our production of power is now approximately the same as that of such highly developed industrial countries as the Federal Republic of Germany, France, Italy and Belgium taken together.

The tremendous growth of power production makes it possible to widely apply electrification of industrial processes; to increase the use of power in agriculture, transport and other branches of economy. The growth of power production in 1958 amounts, approximately, to 23 billion kwh, or exceeds by more than 2.5 times the level of power production foreseen in the 1920 plan of electrification (GOELRO). Yet in the level of power production we are still far behind the USA. The solution of the USSR's basic economic problem depends to a considerable degree upon the rapid growth of the capacity of power stations. Chiefly, we have to build thermal power stations in order to increase power capacity in the shortest time and with the smallest capital investment. This will gain time for us in our economic competition with the USA, and will make it possible to satisfy the power needs of our economy, and will expedite the growth of labor productivity in the entire country.

Modern industrial and agricultural production is impossible without a highly developed chemical industry. The USSR has achieved great successes in the development of this branch of industry and, in the volume of chemical production, now occupies the first place in Europe and the second in the world. However, the existing level of chemical production is still too low for the full satisfaction of the growing needs of the economy and of the population. Considering the exceptional importance of the chemical industry under present conditions, the Communist Party outlined a broad program for its development and especially for increasing production of artificial and synthetic fibers, plastic masses and other synthetic materials. In the next seven years we shall build, or reconstruct, 257 chemical concerns. This will raise our chemical industry to the level required by its role in the contemporary economy. A successful realization of the decision taken by the May 1958 plenum of the CC, CPSU, concerning the development of the

chemical industry is of great importance for the further growth of the whole economy.

The development of the key branches of heavy industry makes it possible to increase considerably the production of consumer goods. In 1958 production of mass consumption goods will exceed the 1913 level almost 14 times. This growth is accompanied by the expansion of the assortment of goods produced and by the growth in the share of more expensive, high-quality products. In the next years, production of mass consumption goods will be increasing at an even higher rate. The decision of the May 1958 plenum of the CC, CPSU, reads: "Now our heavy industry, science and technique has reached such a level that — without detriment to the further preferential development of heavy industry to the defense of the Soviet Union — we will be able to increase production of the mass consumption goods at a considerably higher rate and in the next five or six years fully satisfy the demand of the population for fabrics, clothing, footwear and other goods."

Only a little more than a year has passed since the reorganization of industrial and construction management. The results of this (1958) year show that the transfer of the guiding center of industry to the administrative-economic regions and the establishment of economic councils justified themselves. Each month, each quarter our industry is successfully carrying out its production program. The number of concerns which fail to fulfill the approved plans has greatly diminished; technical and economic indices of industry's work have been improved; and substantial savings of material and finances were achieved in the field of industrial production.

The reorganization of industrial management created conditions especially favorable for the further development of specialization and cooperation of production. The obstacles which stood in the way of cooperation by the concerns in the economic regions have been fully removed. Thus measures were carried out in the Russian Federation, in the Ukrainian SSR and in other union republics for the concentration of production of the same kind of product in a smaller number of concerns. This made it possible to institute factory and plant specialization and to cut down the social cost of production. Cooperation of concerns inside economic-administrative regions as well as in the entire economy is being carried out on a large scale.

The realization of measures directed at the further improvement of industrial management has increased the guiding role of the Councils of Ministers in the union republics and of the local organs. Industry under the jurisdiction of the union republics now produces 94% of the national product compared with 30% in 1952.

Reorganization of industrial and construction management has brought about a growth in workers' initiative, and has opened great opportunities for the more rapid development of production forces. In the current year our industry greatly improved its performance, as may be seen from the data regarding fulfillment of the state plan for 1958. For the first ten months of the year the plan was overfulfilled by 3%. Compared with the same period in the preceding year, industrial production increased 10%. The plan of production for pig iron, steel, rolled steel, coal, petroleum, cement, mineral fertilizers, lumber, automobiles, tractors, paper, artificial fibers, fabrics of all kinds, socks and stockings, linen, knitted wear, leather footwear, meat, fish and confectionery products was considerably overfulfilled.

Besides the increase in the volume of production in 1958 the qualitative indices of industry have also improved. Thus the coefficient of utilization of blast furnaces was 0.79 in 1957 and 0.77 in the first half of 1958, which means

that through better utilization of such furnaces we shall obtain in 1958 about 900,000 tons of pig iron. Production of steel per sq. mt. of open hearth sole was 7.32 tons in 1957 and 7.56 tons in 1958. This means an increase in the production of steel, through better utilization of open hearths, amounting to almost 1,400,000 tons. Better utilization of the revolving kilns and the growth of their productivity in the cement industry will give us 450,000 tons of additional cement clinker this year.

Economic councils carried out the great work of improving the assortment of products manufactured by concerns, avoiding production of the same kind of products in several concerns when this is unnecessary, and concentrating production of details and of products for mass use and for interbranch use. As a result of this work, 33 economic councils of the Russian Federation have done away with production of the same or similar products by 139 concerns.

The indices of socialist agriculture also have been improved. As a result of measures taken by the Party for the sharp improvement in the work of this important branch of socialist economy, recently the development of agriculture has been proceeding at a rate never before observed in our country. During 1954-1957, on the average we produced 7% more grain than in 1950-1953; 37% more sugar beets; 3% more raw cotton; 91% more flax fiber; 39% more vegetables; 26% more meat; 29% more milk. The average rate of increase of the gross product of the USSR's agriculture in 1954-1957 was 7.1% compared with 1.6% in 1950-1953.

The Soviet Union overtook the United States in the production of many agricultural products. For example, the USSR's production of wheat is more than twice as high, of sugar beets about three times as high and of wool 2.5 times as high as in the USA. Great successes in the development of agriculture made it possible to set the task for the Soviet Union to catch up with and overtake the United States in per capita production of meat, milk and butter in the near future. This all-national task is being successfully solved.

In 1958 the Party and the government carried out two important measures in the field of agriculture, measures which have radically changed economic relations between the state and the collective farms and have placed these relations on a new basis. These measures are the sale of agricultural machines to the collective farms and the unified system of purchasing agricultural products by the state.

Already this year we may witness the great positive influence of these measures. The technical level of agricultural production is being raised continually. Field work in the summer and autumn of this year showed that machines of the MTS, sold to collective farms, are utilized considerably better.

This year the Soviet Union had a rich harvest of grain and other agricultural products. The collective and state farms fulfilled the state plan of grain procurement by October 1, ahead of schedule. The state purchased 3,491 million poods of grain, or much more than in 1956, the year of a record harvest.

The collective and state farms of the RSFSR, which sold 930 million poods of grain to the state by November 1, achieved great success in raising grain production.

Such measures as cultivating 36 million hectares of virgin and fallow lands were of very great importance for raising the level of agricultural production. As a result, Siberia and Kazakhstan have become granaries of the Union. Collective and state farms of the Altai region sold to the state more than 280 million poods of grain in 1958. The Kazakh SSR carried out the plan of grain deliveries to the state ahead of schedule. Its collective and state farms sold to

the state 950 million poods of grain by November 1.

Great are the successes achieved by the farmers of the Ukrainian SSR. Its collective and state farms sold and delivered to the state 552 million poods of grain, or 150 million poods more than in 1957.

We also had a good crop of sugar beets, oil seeds and other cultures this year. By November 1, 1958, collective and state farms of the Union sold to the state 43 million tons of sugar beets, or 6.7 million tons more than in 1957 by the same date, though 1957 was the year of a record crop, and 20 million tons more than during the whole of 1953. They also sold to the state more sunflower seeds, potatoes, vegetables, and many other agricultural products.

Significant successes were achieved in another important branch of agriculture — livestock breeding. During ten months of 1958 the deliveries of meat and milk exceeded those of the same period in 1957 by 581 thousand tons of meat and 1,139,000 tons of milk. The growth of socialist herds was helped first of all by strengthening the food base, especially through the great increase, in 1958, of the area under corn to 5 times that sown in 1953. The target set by the January 1955 Plenum of the CC, CPSU, concerning an increase of the average milk yield per cow in the collective farms as well as an increase of meat deliveries, was reached ahead of schedule, as early as in 1957 or in three years instead of six. Production of milk in the Soviet Union this year will reach the level of the United States.

The successful development of all branches of agricultural production made it possible to improve greatly the supply of the population with food and of industry with agricultural raw materials, to strengthen the material and production base of the collective farms and to ensure further growth of the material welfare of the kolkhoz members.

The growth of all branches of material production was accompanied by the development of transport. Its development (especially of railroad transport) is characterized by its technical reconstruction. The change to electric and diesel locomotives is being undertaken on a large scale. The network of electrified railroads is growing rapidly. Dispatchers' centralization and other new means of automation and telemechanics are being applied on an ever increasing scale. In the volume of freight carried, our railroad transport now occupies the first place in the world. Water, automobile and air transport are also growing rapidly.

The process of expanded socialist reproduction is indissolubly bound with the renovation of the economy and with the growth of basic funds. The Soviet Union invests hundreds of billion rubles in capital construction. During 1956 and 1957 the volume of capital investment in the national economy amounted to about 400 billion rubles (in terms of July 1, 1955 prices) or more than capital investments during the First, Second, and the three and a half years of the Third Five-Year plans combined. In 1958 the state will invest 230 billion rubles or 11% more than in 1957. Lately capital investment in the USSR's economy has increased annually by 10 to 12%. Such a large volume of capital investment in various branches of the economy has made it possible to continuously increase new production capacities and to raise the technical level of production.

The huge scale of capital construction demands a proper, economically justified distribution of investments among various branches of the economy and various kinds of production inside each branch. The most important criteria of economic effectiveness are the increase of labor productivity and the reduction in the cost of goods produced. However, it is not a matter of indifference to socialist society how long it takes for the invested means to bring a return and to be transformed into material values, necessary

for production and personal consumption. The planned character of the economy makes it possible to determine beforehand the advantages obtained by society from expediting production of certain material goods. Thus calculations show that though the power produced by thermal power stations is more expensive than that produced by hydroelectric stations, this disadvantage is more than balanced by the fact that thermal power stations require from three to four times less capital expenditure and that the period of their construction is considerably shorter. As a result the national economy gets electric power quicker, and electric power increases labor productivity in various branches and lowers social expenses of production. That is why, as pointed out by Comrade N. S. Khrushchev, "from the point of view of the whole economy it is worthwhile to suffer some increase in the cost of power per kwh in order to gain time and to obtain maximal growth of power production in a short time."

Consideration of the time factor in the distribution of capital investments is extremely important from the point of view of competition between socialism and capitalism. In order to ensure the victory of socialism in this competition in the historically shortest possible time, it is necessary to concentrate investment of large means in the development of the leading branches of economy, such as ferrous and nonferrous metallurgy, fuel, chemical industry etc.

Recently supervision of capital investment has greatly improved in the Soviet Union. An enormous role in that respect is being played by the reform of construction management. In 1957, for the first time in many years, the plan of construction work was fulfilled. This year's plan was also carried out successfully.

The development of the whole social production in the USSR, at all stages of socialist construction, has been due also to the wide use of the latest achievements of science and technique. Recently Soviet science and technique achieved new historical victories of world-wide importance. The orbiting of the three artificial satellites, the development of ICBMs, the construction of large atomic power stations, the launching of the world's first atom-powered icebreaker — all this demonstrates the great scientific and technical progress of our country. Application to industry, agriculture, transport, construction and other branches of national economy of many kinds of modern, highly productive equipment and of new technological processes is an important condition for the further growth and improvement of social production in the Soviet Union.

Thanks to the use of new technique, perfection of the organization of labor, growth of the creative initiative of the masses, and the development of socialist competition in the USSR, the productivity of social labor is increasing all the time. Between 1950 and 1957 the productivity of labor increased 64% and in 1958 it rose 6% over the 1957 level. Its rate of growth in the USSR is considerably higher than in the main capitalist countries. Thus, in the United States in the postwar period, the average rate of growth of labor productivity was 1.5 to 2%, while in the USSR it amounted to between 6 and 8%. In 1958, in spite of the reduction of the labor day, the productivity of labor in industry will rise further and will be approximately 10 times the level of 1913. The productivity of labor in construction, transport and agriculture also has greatly increased.

The constant growth of productivity of social labor under the Soviet socialist system is a very important factor in the rapid growth of social production. At the same time, another important factor in the expansion of socialist production is the increase in the number of workers occu-

pied in the branches of material production. The total number of manual and other workers in the USSR's economy is now more than 54 millions or more than four times their number in 1913. This year the number of manual and white collar workers in the USSR's economy will increase 1.5 millions. The systematic growth in the number of workers occupied in the national economy is accompanied by the constant rise in the cultural level and technical knowledge of workers, and in the growth in the percentage of the total number of skilled labor and of engineers and technicians. The development of social production under conditions of socialism is carried out in the interests of the systematic growth of people's welfare. The growth of material production in all branches makes it possible to raise the standard of living and to satisfy more fully the material and cultural needs of the Soviet people.

This year the real wages in industry and construction — considering pensions, benefits, scholarships, free medical service as well as no unemployment — are more than five times the level of 1913 and the real earnings of peasants six times that level. The decisions of the 20th Congress of the Communist Party of the Soviet Union concerning the reduction of the labor day for manual and white collar workers is being carried out. In a number of important branches of industry, a shorter working day has been effected. A shorter day has also been established on the eve of holidays and days off, and the length of leave for expectant mothers and for mothers after the birth of a child has been increased. Tuition fees in the secondary and higher schools have been abolished. Of great importance also was the increase of wages for the lower categories of workers. The new law of state pensions has considerably improved the situation in respect to pensions.

A good index of the growth of people's consumption is the expansion of retail trade in cities and villages. In the last two years retail trade increased more than 20%. This year 2.7 times more goods will be sold (in comparable prices) than in 1940. Great changes also are taking place in the composition of goods sold. Sales of meat and milk products, eggs, sugar, fruits, fabrics, knitted goods, household goods and cultural production have increased especially.

Of great importance among the measures for the Communist Party and the Soviet government directed at increasing the material welfare of the people is the improvement of housing conditions.

The Party and the government prepared a comprehensive program of housing construction in the USSR. A task of tremendous importance has been set: to end the housing shortage in our country in the next 10 to 12 years. For this purpose, each year capital investment in housing construction is being increased. In 1958 alone more than 62 million square meters of housing area will be built and turned over to occupants. This is 1 1/2 times as much as was built during the whole Second Five-Year Plan. In addition to the energetic construction of houses in cities and workers' settlements, large-scale housing construction is under way on collective farms. Members of collective farms and village intelligentsia have built hundreds of thousands of houses.

The Soviet people reacted with great enthusiasm to the decisions of the September plenum of the CC, CPSU, concerning the extraordinary 21st Congress of the Party. At this Congress the control figures for the development of the USSR's national economy for 1959-1965 will be considered. The Seven-Year Plan for the development of Soviet economy will be an important advance toward the solution of the USSR's basic economic problem. At the same time this plan is a part of an even greater program for the development of socialist economy in the next fifteen years. In

about 15 years production of steel and pig iron should increase, compared with 1957, two to three times; petroleum 5 to 4 times; gas 13 to 16 times; power 4 to 4.5 times; cement 3 to 4 times; woolen fabrics and footwear more than twice, and so on.

In his speech to the Jubilee Session of the USSR Supreme Soviet, November 6, 1957, Comrade N. S. Khrushchev said: "Calculations of our planners show that in the next 15 years the Soviet Union may not only catch up, but also overtake the present volume of production of the most important commodities in the United States. Of course, during this period the United States' economy also may move forward, but if we take into consideration that the rate of growth of our industry is considerably higher than the US' rate of development we may consider quite realistic the task in the shortest historical time to overtake the USA in peaceful competition."

Realization of this program will ensure building up the material and technical base of communism. The Soviet Union will occupy the first place in the world in absolute volume of production as well as in per capita production of goods. This would signify a decisive victory of the Soviet Union over the most developed capitalist countries in peaceful economic competition.

The deep faith of the Soviet people in the victory of our country over capitalism in this peaceful economic competition is based on the fact that the USSR now possesses the most powerful socialist industry, equipped with modern technique; has large-scale mechanized agriculture and has numerous highly skilled workers, engineers and scientists capable of solving the most complex scientific and technical problems. We possess inexhaustible natural riches which allow the unlimited development of production forces in all regions of the country.

Another powerful factor ensuring the victory of socialism in competition with capitalism is the existence of the united socialist camp — brotherly collaboration and mutual help of socialist countries on the basis of the most rational international division of labor between them and coordination of their economic plans.

In 1958 the solidarity of the great fraternity of socialist states has been cemented further. The brotherly family of socialist countries firmly continued to advance towards the great goal of communism. The economy of the socialist countries is growing all the time and the standard of living of their peoples is rising without setbacks.

Unlike the world economy of socialism, the economic development of capitalist countries is accompanied by increasing sharpening of insoluble antagonistic contradictions.

During 1958 the volume of production in the USA and other capitalist countries went down. During 12 months from September 1957 to August 1958 inclusive) production of steel in the United States decreased 32.8 million tons, coal 82.3 million tons and petroleum 32 million tons. As a result of crisis, more than five million workers have become unemployed, a figure which does not include the partially unemployed. Lately the economic situation in Great Britain and other countries of Western Europe also has deteriorated. In the face of the deteriorating position of workers, the contradictions between labor and capital are being sharpened, the struggle of the working class and of the toilers against the capitalist offensive against their vital interests unfolds on a wide front.

Millions of men in the entire world have become more and more convinced that only socialism brings liberation from social oppression and exploitation to the toilers and that a socialist regime ensures a systematic growth in the

welfare of the broad masses. Said Comrade N. S. Khrushchev at the gala reception on the occasion of the 41st anniversary of the Great October Socialist Revolution: "The growth of the economy of the USSR and of all Socialist countries and the improvement in the standards of life of socialist peoples are convincing proof of the advantages of socialism over capitalism. The successes of the Soviet Union and other socialist countries is strengthening the influence of socialist ideas on the toilers of capitalist, dependent and colonial countries."

The unambiguous and logical policy of peace of the Soviet Union and of all socialist countries calls forth a deep sympathy and support of peaceloving peoples. The efforts of the Soviet Union in such an important and pressing problem as disarmament are well known. Since 1955 the Soviet Union unilaterally cut down its armed forces by 2,140,000 men, gave up bases on the territory of other countries and each year reduces its military budget. Recently the Soviet Union advanced new, realistic, disarmament proposals. However, the United States' ruling circles, ignoring the will of the people, stubbornly reject all peaceful proposals of the Soviet Union, continue their policy of "from a position of strength" and of balancing on the "brink of war" which permits imperialist monopolies to profit in the armament race, obtaining billions in profits at the expense of taxpayers and at the expense of the broad masses of toilers.

The Leninist policy of the Soviet government, based on the principle of peaceful coexistence, on the defense and strengthening of peace and on the development of economic and cultural relations with all countries, is in accord with the vital interests of all peoples and is exercising a decisive influence on the course of international events. Events in the Near and Middle East and in the Taiwan Strait have shown that the struggle of the Soviet Union and of all Socialist countries for the preservation of peace is a powerful obstacle to imperialists' plans to start new military conflicts.

Expansion of business and political contacts, establishment and development of mutually advantageous economic relations among the nations are of tremendous importance in strengthening the confidence and friendship among peoples. With every passing year trade with many non-socialist countries expands more and more. If the foreign trade turnover of the socialist countries in 1950 amounted to 39 billion rubles (8% of the whole world trade), in 1957 it amounted to almost 100 billion rubles, or more than 10% of the whole world-trade turnover.

The trade between socialist and capitalist countries shows that the expansion of foreign trade connections, independent of the social regime of the states, is an important condition of normal relations between countries.

International ties of the Soviet Union in the field of culture, science and technique, education, health and tourism are expanding all the time. It concluded about 90 international agreements with foreign countries on problems of cultural and scientific exchanges and the majority of these agreements are carried out successfully to their mutual advantage. All this strengthens friendship among the peoples and helps to preserve and strengthen peace.

The working people of the powerful socialist camp look with assurance toward the future.

The great advantages of the socialist system of economy, the creative activity and initiative of the multimillion people brought to life by the new social regime and the guidance by the Marxist parties of the social development of socialist countries — all this is a guarantee of the successful solution of the stupendous problems of communist construction.

A. Loschakov:

A Fighting Program of Struggle for Peace and Socialism

A year ago, conferences of delegates of communist and workers' parties from the socialist countries, and delegates of the communist and workers' parties from sixty-four countries took place. These conferences and their resolutions represent a great ideological and political advance for the world communist and workers' movement and a convincing demonstration of the further solidarity of the socialist countries.

Twelve communist and workers' parties of the socialist camp — of the Soviet Union, China, Albania, Bulgaria, Hungary, the Democratic Republic of Vietnam, the German Democratic Republic, the Korean People's Democratic Republic, the Mongolian People's Republic, Poland, Rumania and Czechoslovakia — represent more than 900 million toilers or more than one-third of mankind who have forever freed themselves from capitalist slavery. These brotherly parties bear the historical responsibility for the future of socialism in their countries as well as for the future of the whole world socialist system.

Shoulder to shoulder with brotherly parties of socialist states march the communist and workers' parties of other countries. Worldwide, there are 75 communist and workers' parties with more than 33 million members.

At the conferences which took place in November 1957, the representatives of the communist and workers' parties discussed the pressing problems of the present international situation, the struggle for peace and socialism and questions of the further expansion of connections between brotherly parties. At the conference of representatives of communist and workers' parties of socialist countries and of the other countries, a Declaration and Manifesto of Peace were approved. These documents are of tremendous theoretical and practical importance for the activities of the communist and workers' parties. In the Declaration and the Manifesto of Peace, which are models of the creative application and development of Marxist-Leninist theory, the experience of the international communist and workers' movement and the great experience of their parties in the transitional period from capitalism to socialism was generalized; a fighting program for the further development by the communist and workers' parties of the struggle for peace and socialism, for the unity of brotherly parties and for the vital interests of the working class and broadest people's masses, was outlined.

In the Declaration very important contemporary problems were advanced and developed, and the basic laws of the period of transition from capitalism to socialism, applying to all countries which take the road of building socialism, were formulated and comprehensively demonstrated. Among such laws are the guidance of working masses by the working class, the nucleus of which is the Marxist-Leninist party, in carrying out a proletarian revolution in a concrete form; the alliance of the working class with the main mass of peasantry and other groups of toilers; the abolition of capitalist property and the establishment of social property in the basic means of production; the gradual socialist transformation of agriculture; the development of a national economy directed at the building of

socialism and communism, at raising the standard of living of workers; the realization of the socialist revolution in the field of ideology and culture and the creation of numerous intelligentsia loyal to the working class, to the working people, and to the cause of socialism; an end to national oppression and the establishment of equality and brotherly friendship among peoples; the defense of achievements of socialism from the attacks of internal and external enemies; and the solidarity of the working class of one country with the working class of other countries — proletarian internationalism.

The Declaration emphasized that the conference of the communist and workers' parties of the socialist countries confirmed the unity of views of the brotherly parties on the basic questions of socialist revolution and socialist construction. At the same time, it was noted that Marxism-Leninism requires creative application of the general principles of socialist revolution and socialist construction depending upon the concrete historical conditions of each country and avoidance of mechanical imitation of the policies and tactics of Communist parties in other countries.

The peculiarities of the transition of each country from capitalism to socialism are shown in particular in the variety of forms of the dictatorship of the proletariat and of socialist construction. Thus in the USSR and in some countries of people's democracy a system of dictatorship of the proletariat was built with one party only — the Communist Party. In other people's democratic states, dictatorship of the proletariat was developed and strengthened under conditions where several parties existed, collaborating in the national or people's front, with the leading role played by the communist or workers' party.

In the Soviet Union, the land was nationalized and transferred for permanent free use by the peasants. In the countries of people's democracy, the landlords' land was transferred to the peasants as their property (without payment or with partial payment), and collectivization of the land is being carried out gradually, while developing and strengthening the cooperative regime in the villages. The communist party of China has introduced many innovations in the realization of socialist transformation of industry and agriculture and in the guidance of the national economy. A striking example of this is the transformation of private capitalist industry and trade through the wide use of mixed state-capitalist concerns, the socialist transformation of agriculture, and the organization of people's communes. Many new features in the forms and methods of socialist construction also were applied by the communist and workers' parties of Czechoslovakia, Bulgaria, the Korean People's Democratic Republic, Albania and other people's democratic states.

V. I. Lenin wrote: "Socialism will come to all nations; this is inevitable; but it will come to them not in the same way; each nation will bring something of its own into these forms of democracy, into the varieties of the dictatorship of the proletariat, into the tempi of socialist transformation of various sides of social life" (Works, Vol. 23, p. 58).

Ignoring the national, historic and economic peculiarities

of individual countries building socialism may result in a loss of contact with life and with the masses by the communist and workers' parties; while an excessive emphasis on such peculiarities and their exaggeration may lead to the neglect of the most important part of Marxism-Leninism — the doctrine of class struggle, of social revolution and the dictatorship of the proletariat — and may lead to the cultivation of national traits, to the weakening of the international solidarity of the proletariat. The Declaration of the communist and workers' parties of socialist countries emphasizes that it is necessary to carry the struggle against both these tendencies at the same time. Communist and workers' parties of socialist countries must firmly follow the principle of combining the general truth of Marxism-Leninism with the concrete practice of the revolution and construction in their countries, of applying creatively general laws of socialist revolution and socialist construction in accordance with concrete conditions of their countries; they should learn from each other and give each other the benefit of their experience. The creative application of the general laws of socialist construction tested in life and the variety of forms and methods of socialist construction in various countries represents a collective contribution to the theory of Marxism-Leninism.

The Conference of the representatives of communist and workers' parties has demonstrated the strength of these parties and their leading role in socialist construction in their own countries and in the whole international communist and workers' movement, the great influence of the great ideas of Marxism-Leninism on broad masses of working people. The Declaration and the Manifesto of Peace approved at these conferences are a great contribution toward further development of the theory of Marxism-Leninism, of the strategy and tactics of the contemporary communist and workers' movement.

The events which took place after these Moscow Conferences showed to the whole world the great importance of the approved Declaration and Manifesto of Peace, which became an important force mobilizing the international communist and workers' movement and a powerful factor for brotherly countries in achieving great victories in their struggle for peace and socialism.

The most important question of the present time is the preservation and strengthening of peace in the entire world. The communist and workers' parties of all countries are actively struggling for peace and are its standard bearers. The importance of the Manifesto of Peace, calling on the peoples of all countries to intensify their struggle for peace and to prevent war, is increasing in the existing complicated international situation.

Imperialism is revealing its true nature more and more to the ordinary people of the entire world. During the time that has passed since the approval of the Manifesto of Peace, the imperialists, and especially the US imperialists, tried several times to provoke war, to entangle mankind in a war catastrophe. Each time, however, they were repuffed properly by the peace-loving peoples and, first of all, by the countries of the socialist camp headed by the Soviet Union.

The support of People's China by the Soviet Union and other countries of the socialist camp in connection with the brazen provocation of American imperialism in the Taiwan Straits unmasked the aggressive plans of world imperialism. In his message of September 19, 1958, to the President of the USA, D. Eisenhower, Comrade N. S. Khrushchev wrote: "An attack on the Chinese People's Republic is an attack on the Soviet Union. We have concluded with our

great friend, ally, and neighbor — the people of China — a treaty of friendship, alliance and mutual help which is in accordance with fundamental interests of the Soviet and Chinese peoples and in the interest of peace, and no one should doubt that we shall fulfill the assumed obligations." In their answer to congratulations of the CPSU and the Presidium of the USSR Supreme Soviet on the occasion of the ninth anniversary of the proclamation of the Chinese People's Republic, Mao Tse-tung, Li Shao-tsu and Chou En-lai, in the name of the Chinese people, expressed through N. S. Khrushchev and K. E. Voroshilov their gratitude to the brotherly Soviet people for the support it rendered in the defense of the sovereignty and territorial integrity of China.

The warnings of the Soviet Union and other socialist countries, as well as the angry protests of world opinion, also played an important role in putting an end to American and British aggression against Iraq, Lebanon and Jordan.

The Soviet Union is a faithful defender of peoples struggling for their freedom and independence and it will continue to defend the noble cause of peace in the world.

As a result of the formation of the world socialist system and the growing disintegration of the colonial system of imperialism, a further general weakening of imperialism has taken place. The majority of countries of the Arab East have become free from colonial oppression. In Asia the colonialism has almost disappeared. The disintegration of the colonial system of imperialism has entered its final stage. Great masses of men and vast territories in Asia and Africa ceased to be reserves of imperialism.

In the imperialist countries, which have a population of about 500 millions, one may observe very sharp inner contradictions: the broad masses of working people of these countries are resisting exploitation and the aggressive policy of their governments. The number of persons in these countries who more and more turn to socialism is growing. There are also great contradictions among the imperialist states, caused mainly by the attempts of the USA to place other capitalist countries in a dependent position. Reality fully confirms the scientific visions of the genius of Marx and Lenin concerning the downfall of capitalism and the victory of socialism. In spite of all their attempts, no apologists of imperialism, no reformists and no revisionists, can succeed in discrediting the great Marxist-Leninist theory.

The 20th Congress of the CPSU emphasized that the main feature of our time is the spread of socialism over the borders of one country and its transformation into a world system. Forty-one years have passed since the Great October Socialist Revolution. After World War II a number of countries in Europe and Asia which broke away from the capitalist system and established people's democracies — one of the forms of proletarian dictatorship — formed, together with the Soviet Union, a great commonwealth of socialist states. The formation of the world socialist system has sharply reduced the sphere of domination of capitalism; has radically changed the relationship of the forces of socialism and capitalism to the advantage of socialism. A new stage has begun in the development of socialism.

The forces of socialism are continuously growing and becoming stronger. Socialist states are building a new society at an unheard-of rate of development. Each day their prestige in the international arena is rising and the influence of the world socialist system on international events is growing all the time.

The countries of the socialist camp attained extraordinary successes in the construction of socialism and communism, and this is of decisive importance for the victory of socialism

in its peaceful competition with capitalism. In spite of tremendous material losses in World War II, the countries of the socialist camp have increased their industrial production more than 4 1/2 times compared with the prewar level. During the same period industrial production of capitalist countries increased less than twice. This difference in the rate of growth clearly demonstrates the advantage of socialism over capitalism.

Great are the achievements of socialist countries in the development of science and technique. The strongest among the socialist countries, the Soviet Union, is now ahead of the most economically developed capitalist country — the United States — in some important fields of science and technique. The Soviet Union was the first to build an atomic power station, an intercontinental ballistic rocket, and was the first in the world to orbit artificial satellites. The superiority of the socialist system in the scientific-technical field has become clear. This may be seen also from the fact that Americans are now compelled to advance a slogan "to catch up with the Soviet Union in the field of science and technique." The achievements of Soviet science and technique are undermining the prestige of capitalism, and inspire the masses of people in the capitalist countries with faith in the triumph of socialism.

The working people of the Soviet Union marked the 41st anniversary of the Great October Revolution with tremendous achievements. The volume of the USSR's industrial production in the first nine months of 1958 increased 10% over the same period of 1957. Production of pig iron during these nine months of 1958 increased 1.6 million tons; of steel, almost 3 millions; of rolled steel, 2.4 millions; and of coal, 26 million tons over the same period of 1957.

In 1958 the CC of the CPSU adopted important measures directed at the further growth of Soviet economy and, first of all, of its base-heavy industry. The chemical industry and housing construction are being developed at a high rate; the electrification of the national economy is going ahead.

The measures of the CP and of the USSR government, directed at the rapid growth of agriculture and the further strengthening of the kolkhoz regime, have brought remarkable results. This year the country obtained more grain than in the record year 1956. The problem of great state importance — to overtake the United States in the near future in per capita production of meat, milk and butter — is being successfully solved.

In accordance with the September 1958 decision of the plenum of the CC, CPSU, in January 1959 the extraordinary 21st Congress of the CPSU will discuss the control figures of the development of the USSR's economy during 1959-1965. The Seven-Year Plan is directed at the further powerful growth of all branches of the USSR's national economy. The decision of the Plenum to summon the extraordinary 21st Congress of the Party aroused a new wave of political and labor enthusiasm in the country.

The USSR's economic plans are not only a domestic affair of the Soviet Union, but also have tremendous international significance. V. I. Lenin emphasized that our country influenced the whole of world development by its economic policy and that Socialist construction in the USSR was an example for all the countries of the world. The decision of the September Plenum of the CC to summon the Extraordinary 21st Congress of the CPSU aroused great enthusiasm among the working people in all countries of the socialist camp because the Seven-Year Plan of economic development will further strengthen the world system of socialism and develop the economic collaboration of socialist states.

The ruling groups of the imperialist countries have only hatred for the achievements of the Soviet Union in the field of economic construction. Expecting their defeat in the eco-

nomic competition with socialism, they assert that the great peaceful construction that is going on in the Soviet Union represents an "economic threat" to the western world. Vice President of the United States R. Nixon, speaking recently before the National Association of Manufacturers, said: "The threat to the United States is not in the intercontinental ballistic missile; the threat is in the field of peaceful production."

All of the people's democracies have also achieved significant successes in building socialism.

The extraordinary "leap forward" in economic development is taking place in the Chinese People's Republic. The gross industrial production of the CPR increased 34% in the first half of 1958 compared with the corresponding period of 1957. It is expected that by the end of 1958 the increase in industrial production in China will amount to about 60% of the 1957 level.

Metallurgy, machine building, coal production and other branches of industry are being developed at a high rate. While in 1957 production of steel in China amounted to 5.3 million tons, in 1958 it will rise to 10.7 million tons. In the production of coal and in the manufacture of machine tools, in 1958 China will reach the level of British production; it will produce 210 million tons of coal and 80,000 machine tools. China is also building small and middle size industrial concerns on a large scale.

The hard labor of Chinese peasants brings remarkable results. In the summer of 1958 China gathered 50.5 million tons of grain, or more than 20 million tons above 1957. The autumn crop also was the largest on record. Total gross production of grain this year will exceed 350 million tons, or almost double the 1957 production level. The gross production of cotton will amount to 3.5 million tons or more than double 1957 production.

Comrade Mao Tse-tung, speaking at the Supreme State Conference on September 8, 1958, said that as a result of the all-national movement for the improvement in methods of work, everywhere in China an atmosphere of upsurge and improvement is being observed, conditions for the "great leap forward" are being improved and the building of socialism is being speeded up. In the field of agriculture a relatively firm basis has been established and great experience has been acquired. In view of this, the leading organs now have a task: on the one hand to expedite the development of industry; on the other, of agriculture, with emphasis on industry.

The new powerful upsurge which China is now experiencing was reflected in the general line of the party which was advanced at the Second Session of the 8th All-China Congress of the Communist Party: "straining all forces, forging ahead, building socialism, following the principle: more, quicker, better, cheaper."

In the Korean People's Democratic Republic, which recently celebrated the 10th year of its existence, the gross production of industry in 1957 increased 44% compared with 1956, and in the first six months of 1958, by 34% compared with the same period of 1957. The Labor Party of Korea and the government of the Korean People's Democratic Republic set before the working people great tasks of a further powerful rise of socialist economy. In the next six to seven years production of power should increase almost three times, of coal almost four times, of pig iron eight times, and of steel more than eight times.

The results of the economic development of the people's democracies in Europe clearly demonstrated the further growth and the strengthening of the socialist economies, and the continued rise of the workers' welfare. It is estimated that the gross production of socialist industry in Poland increased almost ten per cent over the 1957 level.

in Rumania, in the first six months of 1958, industrial production increased ten per cent compared with the corresponding period of 1957. In Czechoslovakia, it increased 1.4%; in Hungary (in the first nine months of 1958), 14%. The rate of growth of industrial production in other people's democracies in Europe is also high.

In the next five to seven years, a further rapid growth of industry will take place in these countries. For example, the present gross industrial production in Poland is more than five times the level of 1938; in 1965 it will be 10 times that level. Czechoslovakia, by 1965, will increase its industrial production by 90 to 95% compared with 1957, almost double, or six times the prewar level.

These countries obtained significant successes in the socialist transformation of their agriculture. Under the guidance of their communist and workers' parties, organization of new and strengthening of existing agricultural cooperatives, as well as strengthening of the state farms and the MTS continued. As a result, the share of the socialist sector in the gross agricultural production has considerably increased. The yields of the cooperative farms are considerably higher than those of individual farms.

In China, Bulgaria and the Korean People's Democratic Republic, the socialist transformation of agriculture has, on the whole, been completed. In Czechoslovakia, Albania, Rumania and some other people's democracies, the socialist sector of agriculture was greatly strengthened and expanded.

The communist and workers' parties of socialist countries are carrying out great work in the technical reequipping of agriculture. The European people's democracies alone will receive tens of thousands of tractors and a great number of machines in 1958. They also carry out large-scale agricultural-technical work, including irrigation and melioration. However there are still large unused reserves in the agriculture of the socialist camp.

The communist and workers' parties of the socialist countries also paid great attention to raising the people's standard of living. In Czechoslovakia, in 1956, the real wages of workers were 30.8% above the 1937 level; in the German Democratic Republic, 25%; in Hungary, 40 to 50% above the 1938 level. In the Chinese People's Republic, the real income of workers and employees in 1956 was 25.3% over the 1952 level. In all socialist countries, large-scale housing construction is going on. Thus, in Poland this year about 50,000 new houses will be ready for occupancy.

The Congresses of communist and workers' parties, which took place in China, Bulgaria, Czechoslovakia, Mongolia and the German Democratic Republic, summed up the great successes of their socialist construction. They demonstrated the full unity and loyalty of these parties to the Marxist-Leninist teachings. At present the communist and workers' parties of other people's democracies are preparing ordinary congresses. Without doubt these congresses also will demonstrate the unity and solidarity of these parties and will help the further development of socialist construction and strengthen the unity of communist and workers' parties of the socialist camp.

Among the important events of the current year, in the life of the communist and workers' parties of socialist countries, was a conference of the representatives of these parties from the member countries of the Council for Economic Mutual Help which took place in May, 1958. At this conference representatives of the Communist Party of China, of the Working People's Party of Vietnam, of the Labor Party of Korea and of the Mongolian People's Revolutionary Party took part. This Conference discussed questions of the further development of economic collaboration on the

basis of increased international division of labor, rational specialization and cooperation of production. The Conference also heard a report on the work of state planning organizations of socialist countries in preparing long-range plans for basic branches of the national economies. This Conference was convened in accordance with the principles of the Declaration signed in Moscow by the representatives of these parties. The Declaration pointed out that socialist states, on the basis of full equality, mutual advantage and comradely mutual help, had established among themselves a broad economic and cultural collaboration which had played an important part in strengthening the economic and political independence of each socialist country and in strengthening the commonwealth of communist nations as a whole. Socialist states will continue to expand and perfect this economic and cultural collaboration. They also advocate a comprehensive expansion of economic and cultural ties with all other countries on the basis of equality, mutual advantage and non-interference into the domestic affairs of each country, if on the part of those countries a similar desire will be expressed.

The May, 1958 Conference states that at present, when economic ties among the socialist countries had been considerably strengthened and had acquired a comprehensive character, a further development and improvement in economic collaboration among them and a deeper specialization and cooperation of production of the interconnected branches of their national economies acquires especially great importance. The Conference emphasized the importance of a further increase in cooperation and specialization of machine building; of a comprehensive development of power production and of the branches of national economy producing raw materials; and of the further development and introduction of the latest technology. They unanimously confirmed the need for fully utilizing the complementary interests of socialist countries in their preparation of the long-range plans, in which there are tremendous possibilities. They also agreed to expand mutually advantageous forms of collaboration in order to hasten the industrialization of the less developed countries.

At the Conference the representatives of communist and workers' parties of the countries which are not members of the Council for Economic Mutual Help expressed their readiness to take an active part in the economic collaboration of the socialist countries, and to strengthen this mutual collaboration properly through implementing the measures which specific conditions in their countries make possible.

In order to carry out these decisions, a number of socialist countries had already negotiated bilateral agreements concerning the development of various branches of their national economy and the specialization of production as well as long-term agreements concerning mutual deliveries of the commodities important for their national economy (the agreements ending mainly in 1965).

The Council for Economic Mutual Help ensures adjustment of the economic plans of member countries of the Council in key industries and a comprehensive scientific-technical collaboration. It began its work of carrying out recommendations adopted by the 1957 Conferences. In June, 1958 a regular session of the Council took place. It discussed a number of important questions connected with the further expansion and strengthening of collaboration of member countries in economic fields and with deepening the socialist international division of labor and it reached certain decisions.

The importance of economic collaboration and mutual help of socialist countries in the development of their economies, in expediting their industrialization and their sci-

entific-technical progress is growing. It is enough to say that with the help of the Soviet Union alone, the member countries have built or are building about 500 large-scale industrial concerns and sections of plants. Foreign trade between socialist countries is also being successfully developed. Between 1950 and 1957 the trade between socialist countries was more than doubled. A large share of it consists of machines and equipment.

Scientific-technical collaboration and exchange of technical knowledge among socialist countries is being expanded. Strong ties have been established between their academies of sciences, between their research and designing institutes and between individual concerns and scientists. They widely apply the practice of joint scientific-technical conferences and consultations, while permanent branch ties in economic and scientific-technical collaboration, established by the Council, carry out work of great importance.

Socialist countries help each other in the development of various branches of the economy through joint construction of concerns. For example, the German Democratic Republic and Czechoslovakia participate in the development of the Polish coal industry. Rumania, Czechoslovakia, Poland and the German Democratic Republic participate in the construction of a pulp combinat in Brailov, Rumania. The first section of this combinat will start functioning in 1960 and in 1959 a paper board plant will go into production. Examples of such collaboration are numerous.

Thus on the basis of the socialist international division of labor and brotherly help, individual socialist countries are able to develop their national economies not only through their own resources, but also through utilization of the resources of other socialist countries on mutually advantageous terms.

The countries of the socialist camp more and more expand their struggle for strengthening peace among the peoples, for preventing a new war. In May, 1958, a session of the Political Consultative Committee of the member states of the Warsaw Pact of friendship, collaboration and mutual help took place. This session of representatives of socialist governments came to a unanimous agreement concerning the existing international situation and it outlined measures for strengthening peace. The decisions arrived at at this conference are a convincing proof of the peaceful policy of socialist countries, and of their loyalty to the basic principles of their foreign policy and they are a new manifestation of initiative in the struggle for peace and friendship among peoples. The member states of the Warsaw Pact announced, at the Conference, additional reductions in their armed forces in 1958 by 419,000. We may recall that beginning with 1955 the armed forces of member countries of the Warsaw Pact were reduced almost by 2,500,000 men. Exceptionally important is the decision of the Political Consultative Committee to offer to the member states of the North Atlantic Treaty Organization (NATO) the conclusion of a non-aggression pact between the member states of the Warsaw Pact and the member states of NATO. The conclusion of such a pact could greatly change the situation not only in Europe, but also in the entire world and it would be a significant contribution to the removal of the threat of a new war.

The Soviet Government, just as the governments of other socialist countries, is firmly committed to the preservation and strengthening of the general peace, and it invariably stands for a positive solution of the disarmament problem. The Soviet Union gave up its military bases which it had maintained after World War II on the territory of other states. In the last three years, the armed forces of the Soviet Union were reduced by more than two million men. Its armed forces in the German Democratic Republic and Hungary were reduced and Soviet troops left the soil of the Ru-

manian Republic. The Soviet Union is persistently struggling for banning tests of nuclear weapons and for a ban on atomic and hydrogen weapons. Between 1955 and 1958 the Soviet Union reduced its defense expenditures by 15.8 billion rubles. At the 13th session of the UN General Assembly, the Soviet delegation, on the instructions of its government, presented new suggestions in the field of disarmament.

However, the imperialist states do not want to accept suggestions of socialist countries resulting from their anxiety for the fate of peace. It is very significant that the armed forces and military expenditures of NATO members are increasing. Thus, this year, the armed forces of the NATO members in Western Germany are being increased from 19 to 23 divisions. The armaments race of capitalist countries is being intensified. Direct military expenditures of NATO members will amount to more than 60 billion dollars in 1958.

In view of the fact that the peaceful aspirations of socialist countries do not find any response on the part of the NATO members, while military provocations of the imperialists not only do not cease, but are intensified, the socialist states, naturally, cannot slacken their vigilance. They have to strengthen their power and defense capacity in order, in case of an attack, to be able to deal a crushing blow to the aggressor. On October 15, 1958, in his speech in Krasnodar, on the occasion of conferring a Lenin Order to the Krasnodar region, Comrade N. S. Khrushchev said: "The situation is now such that the imperialists would hardly dare to start a war against the countries of the socialist camp. Everyone who can think and reason sanely should see that the Soviet Union and the countries of the Socialist camp are in such a stage of their development that any attempt to start a new war against them will bring an end to the capitalist system. Of course, some madmen may appear whose actions are unpredictable, but we are sure that strategic jackets will be found for them."

After the Moscow Conferences of 1957, the communist workers' parties have become even more united, and their slogans and policies even more effective and attractive to the masses. In accordance with the main goals advanced at these conferences, the communist and workers' parties pay great attention to strengthening the unity of the socialist camp; to strengthening peace and international security; to solving the most important problems of socialist construction on the basis of the Marxist-Leninist doctrine; to unmasking contemporary revisionism, and to mobilization of communists for a struggle with revisionism as the main danger, while at the same time carrying on a struggle with sectarianism and dogmatism.

Having discussed at their plenums and meetings the results of the Moscow Conferences, the central committees of the communist and workers' parties recognized the importance of explaining to the masses the Declaration and the Manifesto of Peace, as well as of strengthening the ideological work of the parties. In their decisions it was stated that communists should fight for the purity of the Marxist-Leninist doctrine and resolutely fight against the penetration of bourgeois ideology into the ranks of the workers. We read in the resolution of the plenum of CC, CPSU (October 1957), concerning "the results of the Conferences of communist and workers' parties' representatives": "For ideological and organizational strengthening of the communist parties, recommendations of great importance are contained in the Declaration concerning the need to struggle resolutely with revisionism as the main danger in the ranks of the international communist movement under present conditions, as well as to overcome dogmatism and secta-

anism." At the second session of the 8th Congress of the CPC it was pointed out that political and ideological work should be in the center of the party's attention. Such events as the attempt at counterrevolution in Hungary in November 1956, the attacks by the rightist elements in China, the ideological offensive of the Yugoslav revisionists, and others, show the need to strengthen the ideological work and to raise its level in all communist and workers' parties.

The enemies of Marxism, frightened by the great victories of socialism and communism are undertaking new attacks on the revolutionary doctrine of the proletariat. As in the past, the ideologists of imperialism and their henchmen are proclaiming a "crisis" of Marxism.

In his works "Materialism and Empirio-criticism" and "Marxism and Revisionism", and others, V. I. Lenin showed the real essence of revisionism as an international opportunist current. In the Declaration of the Moscow Conference it was emphasized that contemporary revisionism tries to discredit the great doctrine of Marxism-Leninism, proclaims it "obsolete," asserts that it has lost its importance for social development. Contemporary revisionists try to undermine the faith of the working class and the laboring masses in socialism.

Revisionism has become especially strong among the leaders of the Yugoslav Union of Communists. All brotherly parties severely criticized the reasonings and actions of the Yugoslav revisionists. Comrade N. S. Khrushchev in his speeches presented a profound analysis and fundamental criticism of anti-Marxist Yugoslav revisionism. In his speeches to the 7th Congress of the Bulgarian Communist Party and to the 5th Congress of the Socialist United Party of Germany, he emphasized that essentially the program of the Yugoslav leadership is a worse variant of right social-democratic revisionist platforms. Modern revisionists have made sorties in various fields — in economics, ideology, culture, and politics. Denying or intentionally distorting the general laws of socialist construction and the principle of the dictatorship of the proletariat, they attack the guiding role of the Marxist-Leninist parties; they are giving up the socialist transformation of villages; they attack the idea of the unity of the working class and of the unity of the socialist camp. The revisionists try to set communist and workers' parties against each other and, in this way, to give up the principle of proletarian internationalism and slide down to the position of "national communism."

Playing down or minimizing the aggressiveness of imperialism, ignoring the danger of new wars which are being prepared by the US aggressive circles and their henchmen, are typical of contemporary revisionism. In fact revisionism means an ideological capitulation to capitalism.

The communist and workers' parties repulsed many attacks by the revisionists in the past two years and inflicted serious defeat on them, especially after the Moscow Conferences of 1957. Based on principles, the determined criticism, of the program of the Union of Yugoslav Communists on the part of communist and workers' parties exposed the traitorous nature not only of the Yugoslav revisionists, but also of the revisionists in other communist and workers' parties.

The Polish United Workers' Party is systematically fighting revisionism. As we know, Polish revisionists attacked

the concept of the dictatorship of the proletariat and of the guiding role of the party in the state. This point of view found its expression in the press and, in particular, in the magazine "Po Prostu." By the decision of the CC, PUWP, this magazine was discontinued.

Hungarian revisionism, which got its ideological inspiration from Imre Nagy, suffered a defeat. This traitor to the Hungarian people denied the basic general laws of socialist revolution and socialist construction, the guiding role of the party of the working class in building socialism, and wished to limit the cooperative movement in the villages to consumers' and marketing cooperatives.

The decisive struggle of the brotherly parties with revisionists has further strengthened the unity of the communist and workers' parties as well as the unity of the states of the socialist camp. But all this does not mean that the revisionists are finished. After their unmasking, the Yugoslav revisionists began to distort the criticism of their position by the communist and workers' parties, to present this just criticism as an "anti-Yugoslavian campaign", and to affirm that this is an interference into Yugoslavia's internal affairs. Under present conditions, the struggle with revisionism remains an important task of the communist and workers' parties.

The historical documents of the Moscow Conferences adopted in November 1957, and the practical steps taken by the brotherly parties to implement those decisions, demonstrated to the working masses of the whole world that the communist and workers' parties are the real champions of peace and progress. The plans of the reactionaries to undermine the USSR's prestige and to weaken the ties between the communist and workers' parties have failed completely. The prestige of the Soviet Union has risen higher and the ties of the brotherly parties with the CPSU have been considerably strengthened.

The establishment of a new international Marxist-Leninist magazine "Problems of Peace and Socialism" is an important and happy event in the life of the world communist working movement. This theoretical and informative magazine of communist and workers' parties, published in Prague, is a new, effective means of strengthening the influence of brotherly parties on the masses and of further strengthening the working class and all working people under the victorious banner of Marxism-Leninism — a new weapon in the struggle with ideological enemies.

The successes of the Soviet Union and other countries of the socialist camp exercise a great and growing influence upon the course of international events. The close unity and brotherly collaboration of the peoples of the socialist camp stand in the way of the imperialists' and revisionists' machinations. This monolithic unity in no way contradicts the international interests of each socialist state. On the contrary, it is the best guarantee of their independence and security and of their successes in the field of socialist construction. The communist and workers' parties of socialist countries pay great attention to strengthening the power and unity of the world socialist camp, because this camp is one of the most important conditions in the building of socialism and communism and is the main bulwark of peace in the whole world.

O. Gubareva:

Concerning Expanded Reproduction of Skilled Labor in the USSR

The character of the reproduction of labor power in each society is determined by the mode of production and reflects the essential features of production relations.

Under capitalism labor power is combined with the means of production on the basis of capitalist private property, the purchase by the capitalist of the worker's ability to work. The means of production serve as the means of exploiting workers in the hands of capitalists. The development of science and technology, mechanization and automation of production processes have as their purpose not the lightening of labor but an increase in the production of surplus value. Technical progress under capitalism leads to an impoverishment in the content of labor activity of the basic masses of workers. Skilled workers are replaced by semiskilled and unskilled. To the extent that science and technology develop the worker is increasingly transformed into a simple appendage of the machine. The functions of planning technological processes, of elaborating the most rational methods of utilizing technology, are concentrated in the hands of technical personnel of the capitalist enterprise; science, as Marx noted, is separated from labor and stands in opposition to the worker as an alien and enslaving force. Therefore technical progress under capitalism leads to a further intensification of the contrast between mental and physical labor, to a loss of skills for a considerable number of workers.

Under socialism labor power ceases to be a commodity; it is combined with the means of production on the basis of social ownership, the planned organization of social labor. "Labor is combined in Russia in a communist manner," wrote Lenin, "to the extent, first, that private property in the means of production is eliminated and, second, to the extent that the proletarian state power organizes on a nation-wide scale large scale production on state land and in state enterprises, distributes labor power between various branches of the economy and enterprises, and distributes among the workers great masses of consumer goods belonging to the state."⁽¹⁾

Socialist production develops in a planned manner, in the interests of the fullest possible satisfaction of society's needs. The progress of science and technology, the mechanization and automation of labor processes are directed toward the lightening of labor, toward increasing its productivity and on this basis to securing a steady growth in the well being of the people.

The freeing of workers from exploitation and a fundamental change in their position in social production have produced a revolution in people's attitude toward labor, a rise in the creative initiative and activity of toilers in city and country, a large-scale development of socialist emulation.

The victory of socialism has led to the liquidation of the contrast between mental and physical labor in the USSR. In creative cooperation with engineering-technical and scientific personnel, workers are participating actively in the improvement of technology, in the creation and introduction of

technical means of mechanization and automation of labor. Technical progress under socialism requires a steady increase in the general educational level and skill of workers and not only of certain categories but of the working class as a whole. This is also preparing one of the material preconditions for the liquidation of existing differences between mental and physical labor. To the degree that technology develops the content of the production functions of workers changes. In their production activity a larger place comes to be occupied by mental labor; workers in a socialist society habitually strive to master the scientific principles of technology and, combining practical production experience with theoretical knowledge, to actively and creatively promote the improvement of production.

The expanded reproduction of skilled labor power under socialism is expressed in the growth of the cultural-technical level and skill of workers, in an increase in the number and relative share of skilled workers in the national economy, in the increasing share of engineering-technical and scientific personnel occupied in material production, in the steady increase in their technical and scientific training.

The increasing relative weight of skilled labor in the national economy is conditioned by the objective requirements of socialist reproduction. Technical progress under socialism produces profound changes in the occupational composition of workers. The steady improvement of machine technology, electrification, mechanization and automation of production have led to serious changes in the structure of workers' cadres in the USSR. New workers' professions are created which require great skill, old professions connected with low skilled hand labor disappear, the structure of the balance of labor power in branches of production, professions, and skills changes. The following data testify to the considerable changes in the structure of the balance of labor power and the increased relative weight of skilled workers in the composition of the working class of the USSR. While the total number of workers in the industry of the USSR increased 4.3 times between 1913 and 1956 the number of workers in machine building and metal working increased by almost 9 times and their relative weight in the total of industrial workers increased during this period from 14.1 to 29.8%. The number of skilled workers in those professions whose labor is connected with the mechanization, automation, and electrification of production grew at particularly high rates. Thus, the number of operators of all types of machines increased between 1925 and 1954 by 16.3 times, the number of machine and tool adjusters by 44.1 times, and the number of electricians by 42.6 times.

Cadres of skilled worker-mechanics are growing rapidly not only in machine building but also in all other branches of the national economy. In the coal industry the number of skilled workers employed on machinery and mechanisms (combine operators, cutting machine operators, their

elpers, etc.) increased 35 times during the same period. In agriculture there has also been a considerable increase in the number of machine operating cadres (tractor-drivers, tractor team leaders and their helpers, combine-operators, harrow-drivers).

Our country now has cadres of highly skilled workers capable of ensuring the development of all branches of the national economy on the basis of modern technique; their number and significance in social production are steadily growing.

The continued growth and improvement of socialist production, and the development of technique are impossible without an increase in the number of engineering-technical personnel, designers, technologists, personnel in scientific-research and planning organizations, without an increase in their role in social production. The growth in the number of specialists occupied in the national economy has led to great changes in the structure of the balance of labor power according to skills. In the Soviet Union the relative weight of specialists with higher and intermediate special education among the population increased from 1.2 thousand per million inhabitants in 1913 to 31.2 thousand in 1956 or by 26 times. The relative weight of engineers and technicians grew considerably. While in 1928 there were 4.3 engineers and 4.7 technicians for every thousand workers and employees employed in the national economy, in 1956 these figures were 14.3 and 20.7, respectively. Thus, the relative share of engineers among workers and employees employed in the national economy increased by more than 3 times and the relative weight of technicians increased by more than 4 times between 1928 and 1956.

The scale of training of highly skilled technical cadres in the USSR exceeds that of the most developed capitalist countries. Thus, in 1957 83 thousand engineers were trained in the Soviet Union while in the USA 31 thousand were trained. Together with changes in the structure of the balance of labor power at the branch and skill level great changes are also taking place in the territorial distribution of labor power. Thus, the relative weight of workers and employees in Siberia among the total number of workers and employees in the RSFSR increased from 12.1% in 1940 to 15.8% in 1955. At the same time the relative weight of specialists with higher and intermediate education rose from 8.2% to 12.8%. In the future the relative weight of skilled workers and specialists employed in the eastern regions of the country among the total number employed in the USSR will grow still more. This is determined by the great role which is being assigned to Siberia, Kazakhstan, and the Far East in solving the most important national economic tasks standing before our country.

In considering the requirements of the national economy for skilled labor power, the Soviet state is concerned with the growth of the cultural-technical level and skill of the workers, with increasing the scientific-technical training of specialists. The cultural-technical level of the workers depends first of all on the development of the people's education. Universal compulsory primary and seven year education have been introduced. Gradually, universal intermediate education is being introduced. The concern of the party and state with the development of the people's education has ensured a considerable increase in the general educational training of the workers. According to data of the educational census of workers, in 1952 more than one half of all industrial workers had an education extending through at least the 5th-6th grades. The changes that have occurred in the education of the workers may be seen from the following examples. In 1952 more than 60% of the workers in enterprises of ferrous metallurgy, heavy machine

building, machine tool making, and no less than 50% of the workers in the coal, oil, and light industries had an education above the primary level. In 1931, according to data of the trade union census, only 12% of the workers in the coal industry, 20% of the workers in the oil industry, 18% of the workers in the cotton industry, and slightly more than 30% of the workers in machine building had an education above the primary level. The percentage of workers in industry with a seven year education approximately doubled during the same period. During the last 5-6 years the level of general educational training of workers has grown particularly rapidly. This was promoted by a considerable increase in the number of students in the 5-10 grades and the development of the network of evening schools for working class and rural youth.

Each year the number of workers with a seven year and a completed intermediate education is increasing in industry, transportation, construction, and agriculture. Thus, in 1958 about 30 thousand youths and girls were hired at Moscow enterprises of which the great majority had an education of 7-10 grades of intermediate school. In 1957 8 thousand graduates of intermediate schools began work at enterprises of the Leningrad economic council. At some enterprises of the economic council, as for example the "Svetlana" Plant and the State Optical-Mechanical Plant, graduates of 10 year schools constitute the bulk of newly hired workers.

The development of a widespread system of correspondence and evening courses in technical schools and higher educational institutions permits many workers to raise their cultural-technical level and skill without discontinuing production. In 1957 there were 15 times more students in evening institutes, technical schools and schools for working youth in Leningrad than there were in 1940. At the optical-technical plant the number of workers studying in correspondence courses and evening institutes increased from 41 in 1953 to 103 in 1957 while the number in evening and correspondence course technical schools increased from 35 to 106.

During the years of Soviet power in the USSR an extensive system of production-technical education of workers has been created which has made it possible to secure the planned provision of the most important branches of the national economy, including agriculture, with skilled cadres and to achieve a constant influx of technically educated youth into these branches. Between 1941 and 1957 more than 9.5 million skilled workers were trained for industry, transportation, construction, and agriculture in educational institutions of the system of state labor reserves alone. Besides this, between 1950 and 1957 more than 4.5 million machine operators for agriculture were trained in labor reserve schools and courses. A great deal of work in production-technical education of workers is being conducted directly at the point of production. In 1957 about 2.5 million workers learned new occupations and more than 4 million workers increased their skills at enterprises.

The tasks of communist construction require a further improvement in the system of the people's education as well as the system of technical training of workers and specialists.

The system of people's education in our country has played a great role in training cadres of highly skilled workers, engineers, and scholars who have glorified our native land by their outstanding achievements in the fields of science and technology and their discoveries of world significance. The Soviet intermediate school differs from intermediate schools of many capitalist countries by its high level of general educational training; it provides firm knowledge in the exact

and natural sciences, history, and literature. The level of general educational training provided by the Soviet intermediate school is sufficient for entry into any higher educational institution.

Until recent times our schools have had as their main task the preparation of students for entry into higher educational institutions. Now, new requirements are being presented to the general educational school—to combine instruction with productive labor, to cultivate in the young generation a feeling of deep respect for every kind of useful, including physical, labor. "...One cannot conceive of the ideal of the future society," wrote Lenin, "without a combination of instruction with productive labor of the young generation: neither instruction and education without productive labor, nor productive labor without parallel instruction and education could be conducted at the level which are required by the current level of technology and the state of scientific knowledge." (2)

Our general educational school is called upon to train people with a many-sided education who are well versed in the principles of science and are capable of systematic physical labor and production of values needed by society.

During the first years of Soviet power, during the years of the first and second five year plans, a great role in preparing people for higher educational institutions was played by the Worker's Faculties which helped to recruit people for colleges from among workers and peasants with production experience. Leading personnel for industry were trained from among workers in industrial academies, courses for red directors, and in other educational institutions. Such a system of training cadres promoted the creation, in the shortest possible time, of a Soviet technical intelligentsia which was vitally connected with the people and devoted to the working class. Later, the preparation of youth for entry into higher technical educational institutions was carried out by the secondary schools. With the great shortage of cadres of specialists with higher education this was a major task and, basically, these schools coped with it. Now that the shortage of cadres is to a great extent liquidated the secondary schools must train educated young people not only for entry into colleges but to be capable of systematic productive, including physical, labor at industrial enterprises, in collective farms, state farms, construction, and transportation.

Under socialism there are not yet the necessary material and social conditions for the introduction of general higher education. Only under full communism when labor will become the first living requirement and society attains a higher productivity of labor, when on this basis, with a continual reduction of working time, products will be produced in abundance, there will be created the necessary conditions and need for a transition to general higher education. In the meantime general secondary school education is being gradually introduced and it is on the secondary school that the task of training young people for productive labor in all branches of the national economy falls. It should be noted that now the level of general educational training of the basic mass of workers is still insufficient: about one half of all workers do not have a seven year education and many have an education of no higher than the 5th grade. This is explained, in large part, by the fact that during the years of the Great Patriotic War a large part of the youth left school and went into production in order to help the Motherland, with their labor, to ensure victory over the enemy. Besides this, the law on general obligatory seven year education is still not being fully fulfilled. Some children, for a variety of reasons, do not complete elementary school and national educational organs and local Soviets do not struggle suf-

ficiently with the dropping out of students from the 5th-7th grades. According to data of the Central Statistical Administration of the USSR in recent years about 80% of the children who enter the first grade complete the 7th grade, even after taking account of pupils who remain for the second year in the same class. Therefore, together with carrying out general secondary school education it is necessary to solve a number of problems connected with obligatory seven year education.

Up to now some youths enter production having an education of less than the 7th grade of secondary school and complete their education in evening schools of working class and rural youth without any interruption of production. But the necessary attention is not always paid to these youth enterprises, the conditions which would promote successful completion of evening schools by workers are not always assured, and the national education organs are not concerned with the preparation of special programs and appropriate teaching aids to make it easier for students of evening schools to master the necessary knowledge. Ensuring general secondary school education by including in the network of evening schools all young workers remains a most important task in increasing the general educational level of workers. This task must be solved by the combined forces of the administration and social organizations of the enterprise and the national educational organs.

With the growth in the number of graduates of secondary school the question of utilizing youth with completed secondary school education in production has arisen. It is not just a matter of distributing this youth in an organized way among enterprises, although the solution of this question is quite complex for some administrative-economic regions, but solving the more complex problem of organizing the system of training of skilled workers' cadres of youth going into production after completing secondary school so that this youth would not be a burden at enterprises but valuable workers.

As experience shows, it is suitable to prepare cadres of highly skilled workers, from among the graduates of secondary school, for employment primarily in mechanized and automatized labor processes while occupations must be chosen for girls which are not connected with heavy, hand labor or with dangerous conditions of production. Thus, a substantial part of the graduates of Leningrad secondary schools were directed by the economic council to enterprises of the machine building, equipment making, and radio-technical industries, while girls were directed as far as possible to equipment making enterprises for use in those jobs which by their circumstances were similar to laboratory work. But in order to utilize graduates of secondary schools in mechanized labor processes it is necessary, first of all, to eliminate the acute need for workers in heavy, slightly mechanized and unskilled jobs, that is, the need for common laborers, and secondly, to introduce appropriate changes in the system of national education and production-technical training.

A rise in the general educational level of workers is called for, first of all, by the objective requirements for developing production, for introducing modern technique into production. Under socialism, with the elimination of the contrast between intellectual and physical labor, the level of general educational and specialized training of workers in its turn, actively influences the rates of technical progress. This appears, first of all, in widespread innovation by workers, in the rationalization of production processes in the perfecting of technique and technology. However, the technical level of production in a number of branches is still insufficient to fully utilize the general educational

training of young workers coming to plants and factories after completing secondary school in the interests of further improving production.

It is known that in our industry, in construction, in transportation, and particularly in agriculture a considerable portion of workers are still employed on slightly mechanized auxiliary jobs. Heavy, hand labor is also retained in those processes which are not considered hand jobs, such as machine moulding, for example. The complex mechanization and automation of all production processes leads to fundamental changes in the character of labor of the basic mass of workers. Workers are transformed into operators and adjusters, that is, into skilled workers who approach the level of a technician in their general-educational training and professional-technical knowledge.

To the extent that complex mechanization and automation of labor are introduced into production the need for workers employed in heavy, hand labor will diminish and the need for skilled workers will increase. Complex mechanization and automation of labor must lead to a liquidation of heavy, hand labor, to the elimination of operations whose fulfillment requires only the physical strength of the worker. The lightening of labor and ensuring its full safety are among the most important factors in the growth of labor productivity. The solution of these tasks will lead to a substantial increase in the need for workers with a high level of general educational and technical training.

Therefore, in order to liquidate the substantial distinction between intellectual and physical labor it is necessary not only to raise the cultural-technical level of workers to the level of engineering-technical personnel but to bring about a fundamental change in the structure of workers' cadres. The latter is determined, first of all, by the character and composition of the instruments of labor. In itself, an increase in the general educational training of workers, without changes in the character of the instruments of labor, does not make the labor of a worker a variety of engineering-technical labor. The decisive role in changing the structure of workers' cadres is to be played by the complex mechanization and automation of production.

In connection with the improvement in the general educational training of workers and, above all, the growth in the relative weight of individuals with completed seven year and ten year education among workers' cadres, under the present conditions of rapid technical progress it is necessary to radically revise the system of production-technical education of workers. Under socialism the complex mechanization and automation of production give rise to the necessity for, and ensure the material conditions for, an all-sided development of the productive functions of the workers, harmoniously combining intellectual and physical labor. In determining the content of training for new workers in labor reserve schools, at enterprises, and in schools and courses for increasing skill, it is necessary to take account of these changes and to prepare highly skilled workers' cadres capable of working under conditions of extensive application of automatic machinery and chemistry in production. In the system of production education young workers must be trained who can correctly utilize the existing means of mechanization in all branches of production, including agriculture. Now that rich technique is available at collective farms its rational utilization depends, above all, on the training level of collective farm machine operators. A high general educational level of graduates of secondary schools makes it possible to train skilled cadres of field workers, livestock breeders, and horticulturists in a short time, to equip them with necessary agronomical and zoological knowledge.

Professional-technical education must be directed toward teaching young workers and collective farmers not only to utilize existing technique capably but to improve it, to apply in production the theoretical knowledge they have gained, that is, toward training them for independent creative labor. Workers who have obtained a complete secondary school education and a corresponding professional training will be able to participate directly in elaborating methods of modernizing machinery, of designing various implements and small-scale equipment, of easing labor and increasing its productivity. Professional-technical schools must serve the purpose of cultivating a communist attitude toward labor among young people. Of great importance in ensuring the higher level of training for skilled cadres which is needed by our national economy is a correct combination of general and professional education with productive labor production. Comrade Khrushchev paid particular attention to this in his speech at the XIII Congress of the Komsomol and in his note, "On Strengthening the Ties Between Schools and Life and on the Further Development of the National Educational System in the Country."

Comrade Khrushchev's proposal to divide secondary school education into two stages will make it possible, in the first place, to ensure the introduction of genuine universal seven and ten year education obligatory for all; secondly, it will make it possible to correctly combine completed secondary school education with special professional training and productive labor in production. The reorganization of the secondary school, the extensive development of a network of correspondence courses and evening secondary schools and higher educational institutions, and an improvement in the system of professional education will make it possible to improve the training of young people for life, for highly skilled creative labor.

Solving the problems of complex mechanization and automation of labor requires a further development of science and technique, an improvement in the system of training cadres of specialists: designers, technologists, workers in scientific-research and planning organizations. The isolation of the educational program of the secondary school from life and from production had a negative influence on the training of specialists in colleges and technical schools. Also, production practice in these educational institutions up to now has been poorly organized. Young specialists have frequently turned out to be unprepared for work as engineers and technicians at enterprises and were unable to organize production in shops and sections with full knowledge of the matter at hand. Because of the isolation of higher technical as well as secondary specialized education from life and because of defects in wage payments to specialists a considerable portion of young specialists tried to obtain work in the apparatus of ministries, departments, or factory administration. The process of production in the section and the shop was led directly by so-called practical workers who did not have the necessary education. Despite the growth in the number of graduated engineers and technicians the percentage of "practical workers" among engineering-technical personnel at enterprises is still quite high.

The percentage of "practical workers" among foremen is particularly high and this has a negative effect not only on the development of the technique of production but also on the technical training of young workers. A foreman who does not have sufficient theoretical training cannot ensure the proper level of production-technical education for young workers who have received a secondary school education.

It should be noted that the presence in production of a large number of "practical workers" among foremen is

connected with important defects in the planning and organization of training for intermediate technical personnel in technical schools. These defects have led to the fact that, despite the great industrial need for graduated specialists with intermediate technical education, a considerable portion of the graduates of technical schools are utilized in workers' jobs. In our view, this fact can hardly be viewed as desirable as some comrades hold.⁽³⁾ The use of young technicians in workers' jobs is caused by the fact that these technicians, not having production experience and skill, are unable to perform the work of a foreman. Also, many of those who finish technical schools are unable to cope with the job of a skilled worker and after finishing a technical school must obtain an appropriate skill in production. In order to eliminate this important defect in the work of the technical schools it is necessary to channel into the technical schools primarily youth who have production experience which corresponds to the type of school and to radically improve the organization of production practice.

The fact that many young specialists after finishing college are sent directly to work in a designing bureau, or a scientific-research organization, or a planning institute without the necessary production experience has a negative effect on the development of technique. One of the reasons for the great defects in the planning of enterprises and in the designing of machinery and equipment is the inadequate production training of cadres of designers and planners.

Specialists will be better able to plan, design, and determine the technology of production processes the greater the experience which they have in production. Students enrolled in higher educational institutions must be primarily from among workers with completed secondary school education and with at least two years of work in production in a specialty corresponding to the type of college. Each student in a higher technical educational institution must receive the kind of theoretical and practical training in his specialty which will enable him, after completing college, to capably direct the work at one or another production section, to help workers in mastering the newest technique and in applying leading experience in the organization of labor. Polytechnical education in secondary school and physical labor in production, the combination of education in college and technical school with productive labor will give the young person the necessary labor habits, a specialty, and concrete knowledge of technological processes, organization of labor and production. This will make it considerably easier to master the theoretical material taught in college and will help make for a better utilization of this material in practice.

The rapid growth of technical progress in all branches of the national economy constantly poses new tasks in the sphere of training skilled cadres. In the process of solving these tasks the outlines of a system of training cadres appear constantly clearer and include: instruction in a general educational school where the students receive many-sided theoretical knowledge and become acquainted with the principal production processes; production-technical training at enterprises or in educational institutions of the labor service which give to young people entering there from the secondary school a production skill; instruction in intermediate special and higher educational institutions where the most capable young workers, obtaining experience in practical work in the corresponding specialty, may acquire the skill of a technician or engineer. Acceptance into higher educational institutions or technical schools should be carried out chiefly on the recommendations of social organizations and directors of enterprises from among workers having secondary school education who show the greatest abilities for engineering work.

An extremely important role in improving the structure of cadres of specialists and in their correct utilization is played by the consistent application of the Leninist principle of material self interest. The system of payment for the labor of highly skilled specialists in different branches of the national economy must be constructed so as to ensure the accelerated development of the most promising branches of science and technology. It is also necessary to introduce substantial improvements in the system of payment for personnel employed in the designing of new machinery so as to take account of the economic effectiveness of the machinery or mechanisms created.

Current tasks of communist construction will be solved more rapidly and successfully the more fully we consider the objective connections between the development of technique, which will be ensured by complex mechanization and automation of labor, and improvements in the whole system of training skilled cadres.

FOOTNOTES

(1) V. I. Lenin, *Collected Works*, Vol. 30, pp. 88-89.

(2) *ibid.*, Vol. 2, p. 440.

(3) See for example the article by V. E. Komarov in the collection *Questions of Socialist Reproduction*, Publishing House of the Academy of Sciences of the USSR, 1958, p. 3.

B. Sokolov:

Reducing the Volume of Incompleted Construction--an Essential Economic Task

The reproduction of the basic capital of the national economy of the USSR is a driving force in the process of expanded socialist reproduction. The rates of reproduction of the basic capital predetermine, to a considerable degree, the rates of development of all branches of the national economy. Expanded reproduction of the basic capital is expressed in planned increase in the scale of capital construction, and the bringing into operation of new and technically more advanced productive capacities, new housing, and also of buildings and structures for cultural purposes and for the purpose of service in matters of day-to-day existence.

The bulk of the accumulations of our country's national income is realized in the sphere of capital construction. Therefore the time factor, the periods required to convert capital investments into new operating basic capital, and the economies affected in the sphere of capital construction, govern the economic efficiency of capital investments.

A specific historical situation, dictated by its economic and political objectives, determines the unique character of the processes of renewal and expansion of basic capital in the national economy of the USSR. Thus, a considerable increase in the volume of government capital investments and expansion of the scale of capital construction, an increase in the share of housing and construction to meet the needs of the population, and a large-scale utilization of modern industrial methods of construction are characteristic at the present time of the reproduction of basic capital. And all the foregoing result in a substantial reduction in the period of time required for the construction of individual projects and structures. Reduction in the duration of the production cycle in construction, that is to say, a gain in time, which is a most important factor in the efficiency of capital investments, takes on particularly great importance under today's conditions of economic competition with capitalism. We know, for example, the great advantage gained by the construction of thermal electric power plants instead of hydroelectric plants, in that considerable time is saved under today's conditions.

During the first post-war Five-Year Plan, the high percentage of reconstruction involved in capital construction made it possible to rebuild objects at rapid rates with relatively low capital expenditures. During the fifth and sixth Five-Year Plans, thousands of large new projects requiring enormous capital investments were laid down in industry, transportation, housing, and services to the population, and the periods required to erect and get these projects into full production were longer.

In connection with the technical progress that has been recorded in recent years, the following changes have taken place in the structure of capital investments. The percentage of capital investment going to equipment has risen to 33-35 per cent, as against 12-17 per cent in the pre-war years. There has been a corresponding reduction in the share of expenditures upon so-called pure construction, that is, upon construction and assembly in the erection of structures and buildings as such. In 1956 such expenditures represented 61%

of the total volume of capital investments by the government, as against 85% in the pre-war years. Moreover, the scale of assembly and structural work done by the sequence method increased both absolutely and relatively.

Indices of the dynamics of average annual volume of capital investment are the means usually employed in our country to evaluate the scale of construction. The total volume of capital investments by the government in 1958 attained enormous figures, in excess of 200 billion rubles (almost 3.5 times as great as during the entire first Five-Year Plan).

However, the volume of capital investment during the current year does not fully reflect the scope and scale of capital construction proceeding in our country. According to approximated calculations based on data of the Central Statistical Administration of the USSR for the results of the census of incompleted construction as of January 1, 1958, the total number of all construction projects underway exceeded 320,000. Their total book value was approximately three times as great as the annual volume of capital construction for 1958. It should also be taken into consideration that capital construction is proceeding on a large scale with the participation of the Soviet Union in the lands of People's Democracy, and also in economically underdeveloped countries friendly to us (India, Afghanistan, United Arab Republic, etc.).

In recent years, the level of organization and technique in the construction industry has grown in the USSR, and this has been considerably facilitated by the reorganization of the administration of industry and construction, and the formation of the National Economic Councils. In 1957, the plan of construction and assembly work for the national economy as a whole was fulfilled in all its major indices, although in individual branches the plan for getting new productive capacities into operation was not carried out to the full. During the first half of 1958, in addition to the plan of construction jobs done under contract, the objective set in reduction of the cost of construction and assembly was met, and the objective of increasing the productivity of labor in construction was overfulfilled.

Realization of the construction program for 1959-1965 will be assured on the basis of a further steady increase in capital investments. The preponderance of the capital investments for 1959-1965 will go to the leading branches of heavy industry, metallurgy, power, chemistry, the fuel industry (particularly petroleum and gas), machinery, and also for further development of housing and construction for cultural purposes and services to the population. Thanks to the utilization of the latest achievements of science and engineering, these enormous capital investments will make it possible in the process of reproduction of basic capital, not only to renew and expand the same, but also fundamentally to transform the most important branches of the national economy. It should be noted that against the background of the general improvement in the construction business in our country, and the significant successes in high speed construction, there are

still serious shortcomings in the system and practice of planning of capital investments, in cost estimation, and in the field of financing of capital investments, and the organization of supply and equipment to construction. This inevitably results in slowing the rates at which new projects go into operation. Elimination of these shortcomings will make for a more efficient utilization of the inherent possibilities for capital construction in the national economy of the USSR.

It is our opinion that to classify all incomplete construction as "dead" and "frozen" capital is unjustified.

From the Table published below it will be seen that, at the beginning of 1958, incompleting construction consisted, with the exception of 8-10% thereof, of projects the construction of which is planned (in the 1958 plan) to continue during the present year, and to continue in years to come.

Composition Of Unfinished Construction As Of
January 1, 1958 (in Percent)

Total Projects being built by government capital investments	100
including:	
Projects envisaged in the 1958 plan	83
Projects temporarily stopped or mothballed	6.3
Projects cancelled	3.2
Projects actually in operation	7.5

In the overall category of unfinished construction it is necessary to differentiate projects at various stages of readiness for operation. In addition to those already running whose completion requires small additional expenditures in short periods of time, unfinished construction includes projects, the construction of which has dragged out excessively. In our opinion, the latter should be classified as mothballed projects, inasmuch as the funds set aside for capital investment therein, will not assure their going into operation in the immediate future.

In order to bring order into the accounting of, planning of, and classification of unfinished construction, it is necessary in the first place to provide a correct scientific definition of its nature. We usually understand unfinished construction to be incompleting capital investments expressed in the books of the builders. However, various wasted capital expenditures and losses of past years, as well as expenditures for mothballed structures carried on the books of those who have ordered them, have nothing whatever in common with incomplete construction of objects underway. On the other hand, the books of those who have placed the orders classify as incomplete construction a certain number of projects actually in operation. The documentation of the transfer of these into operation, and transfer to the books for operating basic capital, has been held up for one or another reason (minor incompletions, etc.). Unfinished construction not infrequently includes incomplete construction carried on the books of the contractors because of relatively small indebtedness for structural components by the contracting institution. It is necessary to develop a precise formulation of the economic essence and content of four different concepts:

A) "Incomplete capital investments." These are capital investments for all projects, whether to be completed or to be mothballed, on which work is not under way at the given time. And, as a rule, these expenditures are carried on the books of those who placed the orders;

B) "Incomplete construction." Expenditures for buildings and structures, the construction of which is to continue during the given Plan period, regardless of degree of completion. All these expenditures should be regarded as real pro-

ductive resources in a state of structural incompleteness, requiring a mobilization of the internal resources of the builders;

C) "Incomplete contracting work" carried on the books of the contracting organization to show unfinished structural components or portions of buildings not yet documented by deeds of acceptance, not paid for by those who have placed the order;

D) "Temporary construction delays." That portion of temporarily incompleting construction, the completion of which is necessary to maintain the pace of construction work, and for starting the operation of newly-built projects at even intervals and within the required period of time.

Also requiring special consideration are incomplete construction projects in a state of what is called "hidden" mothballing; that is, projects and structures whose date of launching of operation has been repeatedly postponed. Unfortunately, the data of the census referred to above do not provide numerical characteristics permitting a precise determination of the share of such projects in the total volume of incomplete construction. However, on the basis of approximate selected data, it may be stated tentatively that the share of such projects in the total volume of incomplete construction is 15-20%.

It would appear that as rapid methods of construction are introduced, and as the share of projects to be built at accelerated schedules increases, the relative percentage of incomplete construction might be expected to decline. However, an analysis of the dynamics of incomplete construction in recent years shows that its volume greatly exceeds the necessary scope of temporary construction delays, and is actually as great as the annual volume of capital investments. As of January 1, 1958, the total volume of capital expenditures in incomplete construction is over 80 per cent of the annual volume of capital investment of 1958 for the national economy as a whole. In recent years, the increase in the volume of incomplete construction came to 10-15 billion rubles annually. And the absolute volume of incomplete construction in the national economy has almost doubled in the past eight years.

This situation cannot be deemed normal. It is necessary to take radical steps to reduce the excessive scope of incomplete construction. It must be borne in mind that excessive volumes of incomplete construction not only freeze funds for long periods but result in significant indirect losses in related fields, as they do not receive the new productive capacities at the time envisaged by the Plan, or the raw materials, fuels, semi-finished goods, and other products that incompleting enterprises were to have produced. In the final analysis, excessive increase in incomplete construction results in a reduction in the rates of increase in the entire social product. The financial and material resources invested in incomplete construction are taken out of current economic circulation for long terms, and thus limit the possibility of development of current production.

However, this withdrawal of resources must not be estimated as an unjustifiable loss to the national economy, as a "freezing" of government funds. In the process of socialist reproduction, capital investment increases not at the expense of, and not to the detriment of current production, but on the basis of the development thereof. And likewise, current production is capable of full-fledged development only on the basis of increase in productive capacities created in the sphere of capital investment. Marx wrote: "It is necessary on the basis of social production, to determine the scale of labor power and means of production for long periods with yielding any useful effect as product during all this period."

is necessary to determine the scale on which such operations may be conducted without bringing harm to branches of production that either regularly or several times a year, not only divert labor power and means of production, but provide the essentials of life and the means of production."* Consequently, the problem is to observe the necessary proportions, and to perfect the system of planning of capital investment both for the national economy as a whole, and for the interdepartmental distribution of capital investments, and in so doing to reduce by all possible means the duration of the production cycle in construction, and the period of time during which means are frozen in incomplete construction.

The clarification of the causes for the development of excessive incomplete construction will make it possible to determine the procedures to be used to reduce the scope thereof in accordance with the real needs for temporary construction delay.

One of the major reasons is violation of the proportions between the planned volume of capital investments and the available resources, making for prompt fulfillment of government orders with regard to launching the operation of new structures. Violation of these proportions has, until recently, caused instability in construction plans and frequent changes in the plans both centrally and locally. Stability of plans, continuity and sequence in planning and financing, are the first condition for normalizing the dynamics of incomplete construction.

The fact that the increase in incomplete construction is more rapid, relatively, than the rates of increase in capital investment, and in the launching of basic new enterprises, is explained by inadequate attention to the planning of the indices covering the launching of new enterprises. Analysis of data on the relationship between capital investment volume and the launching of new enterprises in operation shows that there exist rather substantial differences between the plans for volume of capital construction and launching of new enterprises as initially adopted and as finally worked out at the end of the year. This significantly affects the indices for fulfillment of capital construction plans in the course of the year. Experience shows that the rates of fulfillment of plans for volume of capital construction are, over a period of years, higher than the rates of fulfillment of plans for the starting of new major enterprises, and that this inevitably leads to an improper increase in the volume of unfinished construction. This is confirmed by the following data from the Industrial Bank of the USSR.

Fulfillment of Plans for Capital Investments and for Starting of Major Undertakings, 1953-1956 (Percentage)†

	1953	1954	1955	1956
Planned fulfillment:				
Capital investments	89.9	93.5	94.7	97.4
Starting of operation of major undertakings	82.8	88.3	88.3	83.1
Relation between starting of major undertakings and capital investments:				
As provided by Plan	93.9	96.7	94.3	102.5
In reality	86.5	91.3	88.0	87.5

The systematic lag in the fulfillment of plans for the launching of operations of major undertakings relative to the fulfillment of capital investment plans is a result of a

Karl Marx, *Capital*, Vol. I, 1954, p. 356 (Russian edition). Due to the reorganization of the ministries, we are not in position to show comparable data for 1957.

tendency toward the maximum "utilization" of government funds allocated to capital investment without consideration of government orders for starting the operation of new major undertakings, and is a result of what has been until now the generally accepted method of evaluating the activity of construction organizations as regards fulfillment of the volume of capital construction in monetary terms alone. In order to eliminate this lag, it is essential in the first place to guide oneself by the principle of continuity of planning, and of consistent provision of financial and material supplies both to contracting jobs and to new construction projects.

Continuity of planning in the given field means that from the very beginning of construction of a given undertaking, regardless of its duration, the required capital investments have to be determined and allocated precisely by year and quarter. Redistribution of funds, and re-examination of estimates in the course of the fulfillment of the agreed construction program should be permitted only under exceptional conditions and only with the special approval of higher agencies.

In connection with the prohibition against launching of the construction of industrial enterprises and structures not guaranteed the necessary capital investments and resources of materials and equipment for completion within the envisaged period of time, particular importance attaches not only to guaranteed sources of the necessary financing, but to prompt establishment of dumps of materials and equipment and precise planning of the activity of the construction organizations that carry out capital construction for specific projects. In the process of developing and fulfilling the plans of capital construction, primary consideration must be given to the need for financial and material supply to temporary contracting jobs ready to be launched but, as the terms goes, "blocked."

The strictest adherence to government planning discipline in the utilization of capital investments must become an invariable law.

The concentration of funds and supplies on the most important projects ready to be started, and a decisive struggle against extravagances in the use of government capital investments and the dispersal of funds among a number of projects of secondary importance, plus the strictest adherence to government planning discipline in construction; these are the most important problems the solution of which should, in the immediate future, result in a substantial reduction in the volume of incomplete construction.

Another reason for the piling-up of excessive volumes of incomplete construction is the overlong duration of construction. In addition to the increase in the costs of construction resulting from the dragging out of the period required (wage payments, bonuses, and other expenditures in excess of those envisaged in the original estimate), a dragging out of construction in many cases has the result that newly completed enterprises are obsolescent from the engineering point of view from the moment they go into operation. A dragging out of the period required for construction most often is the result of dissipation of capital investment among a number of projects of secondary importance. The time standards approved in 1956 for construction of enterprises, undertakings, and projects are still being violated. Thus, according to data provided by the Industrial Bank of the USSR, the average real duration of construction, and consequently the average time during which funds are tied up in incomplete industrial construction, is as follows for projects built under unionwide auspices: 37 months in the building of power plants, 35 months for the coal industry, and 31 months for the metal industry. Thus, construction

takes 100-200% longer than prescribed by the established standards. In addition to the perfection of progressive standards for duration of construction, it is necessary significantly to expand the application of time standards to projects of different types and branches of construction for which standard periods of construction have not yet been defined, and, in the first instance, to proceed to establish standards for the duration of construction of enterprises in the chemical and certain other important branches of industry.

The excessive increase in the number of construction projects standing incomplete is also a result of existing shortcomings in the organization of estimate planning, and particularly of long-range planning. Planned objectives and overall financial estimates presented for examination and approval are often inadequately substantiated from the economic point of view. The estimated cost of planned structures is, not infrequently, artificially reduced in order to provide an apparent basis for the high amortization of the planned project, and to reduce the cost of production of the enterprise to be. Only later is it found that large additional expenditures, not originally provided for, will be necessary. In such instances, it becomes essential either to make added capital investments, or to decide whether the given project should be mothballed or abandoned.

This is why it is important to make the requirements for the presentation of economic rationales for projected objectives and specific plans more stringent, and to establish the strictest responsibility for the submission of plans that are not economically justifiable. On the other hand, it would be exceedingly important to apply effective material stimuli for the most economical planning solutions. It is considerably more profitable to the government to permit relatively small over-expenditures for planned construction (even if these represent complete waste), than to start construction on the basis of planned solutions that are fundamentally erroneous.

During the years of the Great Patriotic War, certain simplifications of the procedure for the drawing up and approval of engineering documentation for construction (conversion from three-stage to two-stage planning), was justified by the specific circumstances of the period. In order to limit new construction in a desirable way, it would be wise to restore the pre-war procedure of three-stage planning, approving construction of planned projects on the basis of financial estimates only in exceptional cases, as was the case before the war. It is also necessary to develop and introduce a new system of payment for planned construction, in terms of economic contracts with the customers, and to introduce a system of encouragement under which the personnel of the planning organization, who are not interested in inflating the estimated cost of the project, would be able to design new buildings and structures through a system of competitions for the best design. It is necessary to establish a system of experimental design, not only for projects currently projected, but "for storage"; that is, for a more or less distant perspective independent of current planning. In addition thereto, the practice of building without plans and without estimates, which is against the interests of the state, must be uprooted, and the personal responsibility of the authors of plans for the quality of their development and for prompt presentation of engineering and economic construction documentation must be heightened.

The present system of financing capital investments by outright grants has also led to an increase in incompletable construction. The incentive system of long term credits that existed during the period of industrialization, and justified itself, and then that of financing of capital investments by outright grants from the national treasury were governed by the complex conditions of industrial upbuilding in a coun-

try that had just emerged from a civil war and economic destruction. The special banks for long term investment created at that time had as their purpose to organize planned government financing of construction, to adjust payments between customers and construction organizations, and to provide for day-to-day financial monitoring of the fulfillment of plans for construction. Along with the increase in the scale of construction, there were developments and improvements in the methods and forms of financing, and of the monitoring of construction by the banks. But along with the positive characteristics of the practical activity of the special banks there appeared no few signs of formalism and bureaucracy, which complicated and rendered more difficult the day-to-day work of the engineering and technical personnel of construction projects, and of contracting organizations (intermediate payments in accordance with Form No. 2, the so-called inspection measurements, etc.).

On the basis of the existing system of financing capital investments by free grants, payments for work performed are made not on the basis of the completed and finished construction work, but in terms of the volume of work done (measured by structural components, regardless of whether the plan for bringing new projects into operation has been fulfilled or not). Under today's conditions, this system does not correspond to the most elementary principles of cost accounting, and does not stimulate the speedy starting of operations at enterprises under construction.

If, prior to the reorganization of the system of administration of industry and construction, one could speak of the major functions of the Industrial Bank of the USSR in construction, and of some degree of influence by it outside its own structure upon the construction and industrial ministries (straightening out the finances of the ministries, construction projects, and construction organizations); after the liquidation of these ministries these functions have been, for all practical purposes, reduced to zero. The activity of the specialized banks in the field of short term provision of credit to contracting construction organizations died out, as it did in the field of provision of credit for the construction and modernization of departments and enterprises in the consumer goods field. And the credit available to them is actually used to a very negligible degree. This is apparently to be explained by the fact that in the area in question, that of short term credit, the officers of the State Bank of the USSR are functioning creatively. It would, then, be proper to pose the question of eliminating parallel institutions not only in this field, but also in the field of the function of intermediaries in payments between the customers and contractors in construction; something that could also be done with success by agencies of the State Bank of the USSR, which carried out an analogous middleman function in payments among all government enterprises and organizations.

The major function of the long term investment bank is to organize day-to-day monitoring of the proper utilization of government funds in construction, and primarily to assure businesslike financial control over the fulfillment of plans and adherence to the specified time limits for getting newly constructed projects into production. It is also necessary to reinforce financial monitoring of the utilization of capital investments of the USSR Ministry of Finance and of financial institutions in the localities.

Modern construction operations increasingly approximate the standard procedures of large-scale industrial production. Technical progress in the construction field is eliminating specific peculiarities in the field of technology and economics (its seasonal nature, the indeterminate duration of the production cycle, etc.). As a result, the need is arising to introduce into the practice of construction organizations the new

mal methods of organization of their business that are applied in socialist industry.

The "peculiarities" of financing, credit, and payment (advances by the customers, payment for individual portions of structural assemblies, etc.), that complicate and confuse construction economics, should and can be eliminated in the field of capital construction and the building industry. These same principles of sale of their products by listed prices, allotment of circulating capital and short-term crediting applied in other similar branches of socialist industry with long-term production cycles, such as shipbuilding, the construction of heavy machinery, and so forth, can and must be introduced into construction. A number of major construction organizations (Glavmosstroy, and others) have already, in practice, ceased to resort to customers' advances, have organized their own circulating funds, settle for finished work on the basis of price lists, and make wide use of the credit system. Thus, practice demands a radical re-examination of the existing forms of financing capital investments by grants.

The disorder in the field of supply of materials and equipment also contributes to the exceptional piling-up of volumes of incomplete construction.

In addition to the shortage of basic building materials and certain types of equipment, serious shortcomings in the system of supply itself make themselves felt. On some construction projects, unnecessarily large dumps of materials and equipment, which are badly needed elsewhere, pile up. Interruptions in the supply of materials, delayed and incomplete deliveries of material and equipment, lead to stoppages at construction projects, to an increase in the volume of incomplete construction, and to a dragging out of the construction job. On the other hand, expenditures for equipment that has not been installed in place, "equipment in storage", represent a significant share of incomplete construction. Deliveries of, and payment for equipment ahead of schedule, often has the result that construction projects paying for expensive equipment that will be erected only a year or two later are deprived of the funds needed for capital investment during the current year to pay for work in assembly and construction. The elaboration and introduction of properly worked out standards of consumption of materials and equipment, and the prompt introduction of order into the system of supply of construction projects with complete sets of equipment and all the needed materials, constitute a most important factor in reducing the volume of incomplete construction.

Also contributing to the formation of excessive volumes of incomplete construction is the system of approval of finished projects by government commissions; and also the existing system of transferring capital expenditures actually made for finished construction projects and structures from the capital construction books to the books for the major activities of a given enterprise. As a result of excessive formalities, considerable sums representing projects that are fundamentally complete and actually operating, but for which transfer to the basic capital books has not been made out, are listed as incomplete construction. The need has arisen to correct the existing system for acceptance of finished structures, so that the possibility that finished projects in operation may be shown as incomplete construction of course, unless there are significant incomplete or waste aspects) should not occur.

Finally, the absence of any system whatever in the planning of unfinished construction or standardization of temporary contract work, has led to the unbalanced rise in the volume of unfinished jobs. Until recently, unfinished construction was not listed separately, and was dissolved, as it were,

in so-called incomplete capital investments shown on the books of the builders as part of the total sum of capital investment. It was not listed either as basic or as circulating capital. As a result, there was no way efficiently to monitor the piling-up of unfinished work and to bring pressure to bear against this practice. Establishment in the long range plans of indices for the progress of unfinished work, and the development of planned standards for temporary contracts for various fields and branches of construction to be part of the basis of current and operating plans for capital construction are most important prerequisites for bringing order into accounting and the planning of incomplete construction and for bringing its volume down to a normal level.

The methods to be used in determining the volume of necessary contract work must, like all elements in the planning of capital construction, be subordinated to the major objective, which is that of obtaining a given volume of finished product in a specified period of time. Where capital construction is concerned, the finished product consists of new basic capital in the form of finished enterprises, structures, housing, etc. In the economic literature, the concept of "products of capital construction," and that of "volume of work by construction and assembly organizations," are often confused. The volumes of capital construction may, in some cases, serve as an index of the fulfillment of the plan by a construction organization, but they cannot express the production of construction, inasmuch as the determining peculiarity of the finished product — use value — is lacking here. Erected frameworks and walls of buildings, excavated basements and trenches, do not constitute finished products but incomplete construction, until they have come to be part of an enterprise that is operating. To regard volume of work performed as the production of a construction organization makes for a reduction in the responsibility of construction organizations for the launching of operations as completed enterprises.

A normal construction delay should, at the end of a given plan period, have the effect of contributing to even rhythmical functioning on the part of construction organizations, and the launching of operations on the part of new basic capital in the required volume and within the established period of time during the next plan period. It is necessary in this respect to distinguish between a delay as measured in actual objects (housing space, production capacity, power, etc.), and as measured in cost. In actual objects, this index describes real reserve capacities under construction. As measured in cost, construction delays play an important role in determining the financial needs of a construction project.

A wrong determination of a necessary delay leads to uneven work on the part of construction organizations, to interruptions in construction, and to violation of the plan for starting production on the part of new basic capital. The absence of, or excesses in planned standards for unfinished construction, makes it possible to increase the volume thereof, and to drag out the length of time required for construction. Although the accounting agencies react with adequate sharpness to excesses over the established standards for construction materials or monetary expenditures, and bring various financial sanctions into operation automatically, increases in the residue of incompleting construction usually go without being observed. Therefore, it is necessary to develop planned standards for incompleting construction for the national economy as a whole, and for each branch and individual construction organization; and also for each complex of structures and individual structures.

Standardization of temporary delays in construction should be based on consideration of all factors influencing this parameter. Inasmuch as the function of a construction delay is to provide for even and rhythmical work on the part of con-

struction organizations over the course of the planned period, with adherence to the specified duration of construction and the established plan for getting new basic capacities into operation, the provision of such a construction delay is directly dependent upon the following five major factors:

1. The volume of construction (estimated cost of objects being built which are to go into operation during the planning period).
2. Length of time required to build the objects.
3. Distribution of capital investments over the entire period of construction.
4. Composition of the complex to be gotten into production, and the sequence in which various units forming the complex go into operation.
5. Correct rhythmic organization of the processes involved in construction.

The larger the number of units to go into operation, the greater must be the number of units in construction simultaneously, and therefore, the greater must be the volume of work frozen in incomplete construction. There is also a direct relationship between the duration of construction and the volume of work tied up. The greater the rates of construction, the smaller the temporary freezing required in

ral that calculation of the average standard period should consider the construction not of entire industrial complexes (iron and steel, chemical, etc.), but of individual departments — blast furnaces, open hearth furnaces, coke ovens, etc.; and also of temporary and auxiliary structures housing, railway sidings, and other independent objects of construction which will go into operation when the entire plant or complex starts to function.

In view of the fact that the magnitude of a delay depends primarily upon the volume of construction, in practice it is usually calculated as a percentage of the plan of capital investment for the given period of planning. However, each specific planning period witnesses not only a termination of construction projects begun earlier, but the start of construction of a number of objects to be completed and go into operation during the next planning period. Although there is a direct connection between the magnitude of a delay at the beginning of the plan period, and the capital investments in construction undertakings begun during the preceding period, there is no direct relationship between this delay and the capital investments in construction projects begun during the planned period. Let us assume there are two variants of the plan for capital investment for some group of objects (in millions of rubles):

Objects being built	Period preceding that covered by the present plan		Delay at the beginning of the present planned period	Period	
	Delay at the beginning of this period	Completion of capital investments		Plan of capital investments	
				First variant	Second variant
No. 1	20	100	—	—	—
No. 2	30	150	—	—	—
No. 3	—	180	180	20	30
No. 4	—	20	20	180	170
No. 5	—	—	—	20	100
No. 6	—	—	—	50	200
No. 7	—	—	—	—	100
Total:	50	450	200	270	600

order to bring the given units into operation as required.

Inasmuch as construction delays include incomplete objects, the dimensions thereof in terms of cost are affected by the influence of the nature of distribution of capital investments for each object over the duration of the entire period of construction. If the bulk of the capital investments are made in the period when the construction project is getting underway, the volume of the delay at the beginning of the period covered by the plan will be greater than if a considerable portion of the capital investments are expended during the period of completion of construction. The decisive role in calculating standards for temporary delays is played by a correct determination of the length of time required for construction.

In calculating the magnitude of a temporary delay for a group of objects for construction requiring different lengths of time to complete, it is necessary to group them in accordance with the planned duration of construction, calculating the total delay on the basis of the partial delays for each group of objects. In setting standards for construction delays for branches of industry, or for the national economy as a whole, the calculations have to be based on the average duration of construction. A sample calculation shows that the average length of construction for the national economy as a whole does not exceed two or three years. It is natu-

In this example, the result of the capital investments made during the period prior to that covered by the plan, was the completion of construction and the launching into operation of objects Numbers 1 and 2, and also the start of construction of objects numbered 3 and 4. The scale of capital investments in construction newly begun determines the magnitude of the delay at the beginning of the planned period. Under these conditions, if the planned capital investments under the first variant come to 270 million rubles, this delay will be $(200 \times 100)/270 = 74\%$. And, in the second variant of the plan of capital investments, increased by virtue of the new objects (Numbers 5, 6, and 7) it will now be $(200 \times 100)/600 = 33\%$. But, in both cases, a delay to the value of 200 million rubles is essential to getting these units into production. The situation does not change if one of the first two objects is not brought into operation during the period prior to that covered by the plan. For, under these conditions, the absolute magnitude of the delay will be determined not at all by the plan of capital investments during the planned period, but by the degree to which they are utilized in the period prior to the planned period. While the ratio of one and the same volume of delay to the different variants of the plan of capital investments will always be inversely proportional to the latter, the magnitude of the delay at the start of the planned period is not dependent

ent upon the volume of capital investment in the preceding period as the volume of capital investment also includes completion of construction carried over into the planned period.

In examining the relationship of a fixed volume of delay required in order to assure that the units will go into operation promptly, under different variants of a plan of capital investment distinguished only by the sums assigned to new construction to be begun during the planning period (and inversely proportional to the latter), the following conclusion may be drawn. It lies in the fact that change in the ratio of the magnitude of construction delay to the plan of capital investment is incapable of revealing whether this delay suffices for uniform starting into production of basic units, or whether it is excessive. The planned standard for inevitable delays should be calculated not by comparing incompleting construction, to the total volume of capital investments, but on the basis of the ratio of incompleting construction to completed construction; that is, to the value of the unit that had been brought into operation.

As already observed, a correct determination of inevitable construction delays is of considerable importance in planning capital investments. However, it must be borne in mind that residual incompleting construction, taken into consideration in the capital investment books, does not truly reflect the dimensions of the resources that can be used for construction during a given plan period. Determination of the scope thereof requires an all-sided analysis of the state of incompleting construction, determination of expenditures not related to objects being built during the given planned period, and discovery of waste and uneconomical expenditures.

An improvement in the scientific level of the planning of capital construction, and in particular, an improvement in the field of incompleting construction and the establishment of planning standards for structural delays, will improve the organizing function of the plan as a weapon in the grandiose construction program outlined in the long-range plan for the development of the national economy of the USSR in 1959-1965.

A. Pakhomov:

Some Problems of Amortization in Agriculture

Under conditions in which the collective farms operate with equipment they themselves own, the question of amortization of basic equipment, and of the repair of tractors, harvester combines, and other agricultural machines arises in a new light. Previously, when the overwhelming bulk of equipment was in machine and tractor stations, no write-off for amortization was made. Expenses for the repair of equipment were made good out of the budget within the limits of standards for costs per hectare of work by tractors. At the present time, when agricultural machinery is concentrated in the collective farms, the state farms, and the repair and equipment stations which are all on a cost accounting basis, it is necessary to set aside funds for amortization to renovate and repair basic equipment. These funds will serve as one of the most important sources of agricultural capital investment, will reinforce cost accounting, and will make for highly productive utilization of machinery and proper maintenance thereof.

As we know, the physical wear of the tools of labor is the result not only of the wear in the process of labor, but of the facts of natural circumstances (the rotting of wood, the rusting of metal, the aging of materials, etc.). Natural factors play a particularly important role in wear when equipment is poorly housed. When machines wear out physically due to the results of natural factors operating when they are not in use, the value thus lost is not reproduced in the finished product. In addition to physical wear, machines become obsolete in two forms. The material basis for obsolescence in socialist society is technological progress.

The basic means of production at the disposal of socialist agricultural enterprises rose 72% in value from 1953-1957, including a 56% rise in the machine and tractor stations, a rise of more than 100% in the state farms, and a 55% rise in the collective farms. The greatest increase in basic capital represented structures and buildings, and also the supply of equipment for the machine and tractor stations and the state farms. In addition, as a result of technological progress in the building of agricultural machinery, and the provision of large amounts of new equipment to enterprises, considerable qualitative changes in the composition of equipment occurred. This is borne witness to specifically by the following data on the discarding of worn-out tractors of obsolete types in the machine and tractor stations in recent years:

	SKhTZ	STZ-NATI
Discarded and written off in 1956.		
In thousands of units	39.5	15.9
In percentage	25.4	15.3
Discarded and written off in 1957.		
In thousands of units	49.1	30.2
In percentage	42.4	34.6

Thus, more than 50% of all SKhTZ and STZ-NATI tractors, physically worn out or obsolete, were written off in 1956-57.

However, a number of tractors and agricultural machines still do not correspond to the demands of proper organization of agricultural work, particularly the all-round mechanization of these operations.

The role of technological progress in the field of agricultural machinery is of increasing importance particularly at the present time when the decisions taken by the Communist Party and the Soviet government on the sale of equipment to the collective farms is being carried out. The organization of the machine and tractor stations makes it possible for collective farms to buy new and more modern equipment corresponding to the specific needs of the economy in various zones of the country.

In order to manufacture more productive, economical, and universally utilizable machines, and to utilize them to the fullest possible degree during the entire year, it is necessary to specialize the building of agricultural machinery with allowance for the special features of different regions of the country. For example, the efficiency of the S-80 tractor will be different in the Altai territory, with its enormous unbroken stretches of arable land than in Kalinin or Moscow provinces, where the collective farms dispose of relatively small acreages of plow land. All this means that the collective farms will continue to face the problem of constantly renewing the equipment they possess.

The increase in the head of productive cattle in the collective farms and state farms in connection with the fulfillment of the problem posed by the Communist Party of catching up with the United States of America in per capita production of milk, meat, and butter, will also result in a further increase in the volume of basic production capital in agriculture. In connection therewith, the old sources for providing for simple and expanded reproduction in agriculture are becoming inadequate. Thus, calculation of the transferred value, and the organization of complete cost accounting within each farm unit, become a pressing necessity in the new stage of the development of agriculture. This requires a sharp improvement in basic capital accounting in agriculture and the development of economically justified standards of amortization, improvement of current repairs and basic overhaul.

A proper classification of basic capital is essential to the elaboration of economically justified standards of amortization. The more detailed is the compilation of the classification of basic capital in terms of length of service, the more accurately the standard of amortization will reflect the wear of basic capital of a given enterprise.

We know that basic capital is divided into productive and unproductive capital in accordance with its role in the creation of the product. For state farms and collective farms which are similar in the nature of their agricultural production, it would be proper, in our opinion, to adopt the following classification of basic capital:

1. Standard buildings employed in production
2. Lightweight production buildings
3. Permanent housing and buildings for cultural and service purposes

4. Lightweight housing and cultural and service buildings
5. Major structures
6. Lightweight structures, each group being divided into subgroups of buildings and structures based on the types of materials employed in their construction
7. Equipment subdivided into machine tools, power producing equipment, electrical equipment, woodworking, welding, and so forth
8. Tools
9. Inventory
10. Power transportation equipment
11. Horse-drawn transportation equipment (with harness listed separately)
12. Tractors
13. Harvester combines
14. Other agricultural machinery and tools
15. Working cattle
16. Productive cattle (subdivided into large-horned cattle, sheep, pigs, etc.)
17. Fowl
18. Bees
19. Fruit and berry plantings (subdivided into bearing trees and bushes)

The establishment of such a classification makes it possible to include, in a single group, tools of labor similar in the nature of the production for which they are used, as well as fundamental equipment approximately identical in terms of service life. And this would be of enormous importance in determining more correct standards of amortization for purposes of replacement.

Also important is the establishment of correct scales of amortization. Amortization, as we know, is a factor in costs. Therefore, if the standards of amortization be excessive or understated, this will be reflected in the level of cost of production and will distort the calculation thereof. Understated amortization standards will make it impossible completely to cover the initial cost of basic equipment at the end of its service life, and this will show an artificial reduction in cost of production. Excessive amortization standards will result in an excessive increase in the cost figure, and in impairing the results of financial and economic activity, and will cause the enterprise to show a loss.

Establishment of correct amortization standards on the basis of the wearing out of the basic equipment is the foundation upon which a balanced estimate of basic needs of production can be made in accordance with current prices. However, the present mode of evaluation of basic equipment in collective farms, state farms, and repair and technical stations, is sharply different from the cost of replacement. For example, in the Fifteenth Anniversary of October Collective Farm of Krivoy Rog County of Rostov Province, a stone shed of sixteen square meters floor space built in 1950 is carried on the books at 291 rubles, while today it would cost not less than 8-10,000 rubles. An adobe shed of 333 square meters floor space is listed at only 500 rubles. The brick house occupied by the board of the collective farm, measuring 70 square meters, is valued at 8500 rubles, while by the most modest estimates it would cost 50-60,000 rubles. This low valuation of basic property is due to the fact that it includes only the cost of purchased building materials. Even in machine and tractor stations and state farms where the valuation of major property is closer to socially necessary expenditures, the book value also does not correspond to today's price level. For example, in the Millerovo Machine and Tractor Station of Rostov Province, a lathe for turning bearings, purchased in 1949, is carried on the books at 10,226 rubles; while a modern — and many times better — lathe model DIP-200 is 13,018. This shows that the valuation of basic equipment

differs significantly from its real current cost. Thus, if standards of amortization were established on the basis of the book value of essential property, this would result in an understatement of the funds required for amortization. Consequently, in order to establish proper standards for amortization, it is necessary to conduct a revaluation of the fundamental properties of collective farms, state farms, and repair and technical stations. It is obvious that an evaluation of structure should be based on the cubic volume of buildings and the current cost of one cubic meter, calculated for various types of materials, equipment, and tools, with consideration for physical wear and obsolescence.

Today, amortization is calculated in various ways in socialist agricultural enterprises. In the collective farms, because of the specific conditions under which income and expenditures are accounted for, funds set aside for amortization go into the indivisible funds which are provided to pay for equipment and labor and expanded reproduction. The fund set aside each year for amortization in the collective farms is not subject to the income tax.

In the state farms, allocation of funds for amortization of basic property is done in two ways. First, as a percentage of the book value of structures, equipment, tools, etc.; and per hectare of work done by tractor and harvester combines, and per kilometer of distance covered by trucks. The state farms calculate 7.5 per cent of the book value for amortization of basic property; and of this, 4.7 per cent is allocated to fundamental overhaul; and 2.8 per cent goes to the financing of capital investments. These standards vary among the state farms of the various union republics.

The formerly existing Ministry of State Farms of the USSR established a maximum basic overhaul cost for each type of tractor and harvester combine. The state farms of the constituent republic approved coefficients for determination of the sums going to amortization of a given tractor in terms of the maximum cost of major overhaul. As a result of the division of this sum by data on the amount of work done between overhauls, measured in hectares of easy plowing, a standard deduction for amortization was arrived at per hectare of tractor operation, calculated for easy plowing. At the present time, this procedure for amortization deductions for purposes of overhaul and repair has become outdated. Let us cite as an example calculated data for amortization in terms of these coefficients for various makes of tractors and harvester combines.(1)

These data testify to the serious shortcomings in the coefficients for calculation of tractor and harvester combines adopted by the former Ministry of State Farms of the USSR. The standards for amortization for purposes of replacements of a Byelorussian tractor are excessively high, and constitute 62 per cent of the amortization allocations per hectare of easy plowing. As a result, the Byelorussian tractor is completely amortized in a very brief period — six years — and the Universal is amortized in eight years. Amortization standards are also high for the KDP-35 tractor. On the other hand, the amortization standards for replacement of the DT-54 ChTZ-S-80, and the old models STZ-NATI, and SKhTZ are very low. And this artificially lengthens the period of time during which these machines continue to be used.

In the machine and tractor stations, partial amortization allotments were made, and these only for basic overhaul of tractors and harvester combines. No amortization deductions were made for replacement costs. Tractors, harvester combines, and other agricultural machinery were discarded and written off the books of the machine and tractor stations, not on the basis of standards of amortization, but in accordance with the degree of physical wearing out of this

	Seasonal earnings per year (in hectares of easy plowing)	Total amortizations (per hectare of easy plowing)		Wholesale price 1958	Total deductions for replacement of machines per year	Time required for replacement of first cost (Years)
		Total (in rubles and kopeks)	Of the foregoing, for replace- ment			
				In Rubles		
ChTZ-S-80	1572	3—14	1—30	32,700	2,043	16
DT-54	1410	2—61	0—87	25,000	1,226	20
KDP-35	775	6—17	2—31	17,000	1,790	9
Belarus'	776	7—14	4—40	19,800	3,414	6
STZ-NATI	986	3—60	1—02	19,500	1,005	19
SKhTZ	362	3—83	0—39	9,200	141	65
Universal	369	5—59	3—17	9,200	1,170	8
Self-propelled S-4 harvester combines	249	11—25	6—75	23,200	1,681	14

fundamental equipment. Because of the absence of amortization deductions in the machine and tractor stations, the machines were used for an excessively long time, and this increased the cost of tractor operations. The following data will testify to this.(2)

rubles) in machine and tractor stations of various zones of the country.

As we see, amortization deductions per hectare of easy plowing in the machine and tractor stations of Kalinin oblast were more than twice as great as in the machine and

	Altai territory	Krasnodar territory	Voronezh province	Ivanovo province
<u>SKhTZ tractor</u>				
Average service life (in years)	21	20	21	18
Repair costs per hectare of easy plowing — in rubles and kopeks	6-43	3-46	3-47	7-70
<u>STZ-NATI tractor</u>				
Average service life (in years)	10	11	10	7
Repair costs per hectare of easy plowing — in rubles and kopeks	3-87	2-65	3-16	7-21
<u>Universal tractor</u>				
Average service life (in years)	19	15	18	15
Repair costs per hectare of easy plowing — in rubles and kopeks	3-20	3-24	3-18	7-04

It will be seen from these data that the longest service life was that of the SKhTZ tractor, and this constituted 18-20 years. As a result, these tractors were both worn out and obsolete. An example of obsolescence of a machine is presented by the data on the discarding of the STZ-NATI. These tractors are usually discarded and written off not due to physical uselessness, but because each hectare of easy plowing done with this machine costs 5-6 rubles more than when done by a DT-54 diesel tractor.

Presently the standards for wear of the machine and tractor equipment are set at up to eight per cent per year for all tractors, eight per cent for non-self-propelled combines, and 10 per cent for self-propelled and straight-through combines. These are tentative standards for wear. They may, and should be, changed in terms of the conditions under which this equipment is employed. For the utilization of equipment under full load during a year also depends upon natural climatic conditions in various parts of the country. Let us cite the amortization deductions for replacement per hectare of tractor work calculated for easy plowing in terms of the most widely used tractor — the DT-54 with hydromatic drive — (price of the tractor — 25,000

tractor stations of Krasnodar krai, and almost 50 per cent greater than the average of all the machine and tractor stations in the country. This differential is due to the special features of utilization of the tractor resources of these various provinces. Although, under the conditions existing in Kalinin province, tractors are used for field work not more than five months a year, in Krasnodar territory they work not less than seven to eight months. Therefore, the work done per tractor in Krasnodar territory is more than double that in Kalinin province. However, it would be incorrect to set up standards for deductions for amortization for the purposes of replacement in proportion only to the annual work done by a tractor, or, for that matter, the work done per shift. In the collective farms of the northern and central districts, the plow lands are, as a rule, broken up into fairly small sections. Therefore, the work done per tractor or combine per shift is less here than in the collective farms of the southern territories and provinces possessing enormous unbroken stretches of plow land. Moreover, tractors make many dry runs to the ends of individual fields, and trips from one field to another, and this causes a good deal of deterioration.

	USSR Average	Krasnodar territory	Altai territory	Tashkent province	Kalinin province
Total amortization (based on 8 per cent depreciation per year)	2,000	2,000	2,000	2,000	2,000
Work done per tractor in 1956-1957 (in hectares of easy plowing)	1,410	1,871	1,364	954	804
Deduction for amortization per hectare of easy plowing	1-42	1-07	1-47	2-10	2-49

It is necessary to differentiate standards of amortization deductions for purposes of replacement not on the basis of work done, but on the time during which tractors and combines are utilized in operation. The standard for measurement of the time for utilization of tractors would be the number of machine shifts worked on a conventional 15-h.p. tractor. Thus, according to data for 1957, the number of machine-shifts per conventional 15-h.p. tractor for all the machine and tractor stations of the country was 165; while in Krasnodar territory it was 206, or 125 per cent of normal; in Altai territory, 152, or 92 per cent of normal; and in Kalinin province, 137, or 83 per cent of normal. If the amortization standard be taken on average as 8 per cent; in Krasnodar territory, due to the greater deterioration of tractors, this standard would be 10 per cent; and in Kalinin province, 6.6 per cent. This differentiated standard of amortization in accordance with natural and economic conditions of utilization of equipment of collective farms and state farms would provide a more correct reflection of true depreciation of agricultural machinery.

In recent years, there has been a marked increase in capital investment for the construction of repair shops at agricultural enterprises. Over two-and-a-half billion rubles was expended for these purposes in 1954-1956. Two thousand four hundred repair shops were built in machine and tractor stations and state farms. A large number in addition thereto are in the process of construction. At the present time, there are over 13,000 repair shops in the repair and equipment stations, the machine and tractor stations, and the state farms. They have a total power of 1,700,000 conventional repair units, including about 6,000 standard shops, with a total capacity of 1,200,000 conventional repair units. In addition, the system under the administration of the Ministry of Agriculture of the USSR has 472 overhaul plants and repair shops operated on a cost accounting basis, with a productive capacity of 2,600,000 conventional repair units per year.

However, the network of repair enterprises is distributed unevenly. In some provinces, territories, and republics there is an excess thereof. But in other provinces, territories, and republics, on the other hand, there is a shortage thereof. Unevenness in the servicing of agricultural machines exists within many separate districts; and this is a consequence of shortcomings in the planning of repair capacities. The standard repair shops that used to be built with a capacity of 400 conventional repair units were designed for machine or tractor stations or state farms possessing in excess of one hundred physical tractors, with an appropriate selection of tractor-drawn or suspended equipment. And the workshops with a capacity of 250 conventional repair units were designed for enterprises with 60 tractors. Due to an inadequacy of standard designs for smaller quantities of work, large shops were built in small machine and tractor stations and state farms with negligible numbers of machines. As a result, the capacities of many machine shops were not used to the full.

One of the major causes for the low level of utilization of the capacities of repair enterprises is also the seasonal nature of the repair of tractors, combines, and other agricultural machines and equipment. As a rule, the repair of equipment in machine and tractor stations and state farms was done between November and February. During this period, the workshops, equipment, and workers were completely provided with work for the entire work day. During the rest of the year, a slowdown occurred, and the workshops merely did occasional work to carry out various small orders. Therefore, in order to make complete use of the workshops, it is necessary to convert to year-round repair of equipment.

The relationships between the collective farms and the repair and equipment stations are built on the basis of cost accounting.

In connection therewith, it is necessary to examine the question of the procedure for settlement of accounts between collective farms and the repair and equipment stations. The machine and tractor stations were paid for repair to the engines of tractors and harvester combines in accordance with a fixed maximum cost for repairs. It is obvious that in settling accounts between collective farms and repair and equipment stations, it would be desirable to break with this practice, inasmuch as this would not stimulate a careful attitude toward equipment. In the interests of increasing responsibility for the utilization of machines, the procedure for settlement of accounts between collective farms and repair and equipment stations should be based not on maximum, but on estimated cost of repairs of tractors and harvester combines. Under such a procedure the delivery of a tractor or harvester combine for repair would be done with due consideration for its mechanical condition, and for the performance of its standard work assignment between repairs. Before a machine is shipped off for repairs after carrying out a given volume of work — as measured in hectares of easy plowing — the mechanical personnel of the repair and equipment station and the collective farm should compile a list of defects and determine the estimated cost of repair of the given machine, in accordance with which the collective farm will pay the repair and equipment station.

In enterprises operating on a cost accounting basis, major overhaul is done out of the amortization funds, and current repairs and preventive maintenance are done out of production costs. This procedure in financing provides for division of repairs into two groups: basic and current.

However, the line of demarcation between basic and current repair is entirely conventional, and, in practice, it has virtually disappeared completely in the machine and tractor stations. A selective checkup demonstrated that at the Millerovo Machine and Tractor Station, the costs for one major overhaul and one current repair of a tractor differed little, as will be seen from the following data.

Expenditures for current repairs of a number of tractors were actually greater than those for basic overhaul, although

Bookkeeping identification number of each DT-54 Tractor	Year when this tractor went into operation	Costs per repair in rubles		Expenditures per hectare of easy plowing (in rubles and kopeks)	
		Basic Overhaul	Current Repairs	For basic overhaul	For current repair
115	1950	5,650	5,500	1-42	1-83
117	1950	4,430	4,650	0-91	1-53
112	1952	3,382	4,450	0-83	1-77
111	1952	5,743	4,620	0-50	1-62
114	1953	5,680	3,920	1-13	1-17
121	1953	5,670	5,340	1-07	1-51
123	1953	4,183	3,490	0-52	1-72
124	1954	2,823	3,680	0-38	1-51
129	1954	2,662	2,920	0-42	1-39
141	1957	—	2,555	—	0-96

the maximum allowed cost of basic overhaul was 4,403 rubles; and that for current overhaul was 8,230 rubles; the cost for a single basic overhaul fluctuated between 2,662 and 5,743 rubles; and for current repair, from 2,555 to 5,500 rubles.

The classification into basic overhaul and current repair is often a factor inhibiting more complete utilization of machines and reduction in expenditures. For example, at the Millerovo Machine and Tractor Station, the cost of a repair to a DT-54 tractor in January 18, 1957 came to 4,559 rubles. In the course of the repair job, it was found that some parts did not require immediate replacement, and could still be used. In July, when the work done per tractor was more than 700 hectares — measured in easy plowing — the need arose to replace the caterpillar hoods and other parts. All expenditures for additional repair carried out in July were ascribed by the bookkeeping department to current maintenance. As a result, the cost of current maintenance climbed to 4,222 rubles, or almost the cost of a major overhaul.

The expenditures for repair work in collective farms in conjunction with the sale of equipment thereto, are increasing sharply. Thus, in the Kaz-Minsky Collective Farm of Nevinnomyssky County of Stavropol Territory, costs of repair to buildings, agricultural equipment and tools in 1957 amounted to 569,000 rubles. In 1958, these costs increased to a million rubles.

Let us examine the procedures for financing the costs of repair of equipment in collective farms. It is hardly practical to ascribe all expenditures upon the repair and current maintenance of tractors and other agricultural machinery to current business expenditures. The repair of equipment requires the possession of monetary resources at all times for purchase of spare parts, repair materials, payment for the services of repair and equipment stations, etc. In the collective farms, however, because of the seasonal nature of agricultural production, a considerable portion of monetary income is received in the fall, during the period when agricultural products are sold. The rest of the year may witness financial difficulties, and this is reflected in a negative fashion upon the work of the machinery and tractor pool, and therefore in the production of the collective farm as a whole. It would therefore seem most sensible, both in collective farms, and in state farms as well, to finance basic overhaul and current repairs from a single source, i.e., from the amortization funds. This financing procedure would create the possibility to accumulate funds for purposes of repair throughout the year from amortization deduction per hectare of work performed, to expend these funds at any time during the year, to eliminate the artificial division into basic overhaul and current

repairs, and to proceed to a more progressive system — that is to say, to a system of repairs by assemblies — to juggle repair funds, to stimulate a more complete utilization of spare parts, and to cut down expenditures for repair of equipment.

Deductions per hectare of work done for repair and replacement sinking funds should be considered, in the collective farms, as part of the sinking fund allocations for basic capital, and should be entered in subsidiary books for allocations for replacement and the repair of basic equipment.

Sinking fund deductions for the repair of the major productive equipment, and for capital investments, may be made within the limits of allocations to, or above the limits of allocations to the indivisible funds of the collective farm, as may be decided by the general meeting of the members of the given collective farm.

Although sinking fund deductions for tractors and harvester combines for purposes of replacement may be calculated as percentage of the book value of these machines with due allowance for differences district by district, the standards of sinking fund deductions for planned overhaul should be established in percentage not of the book value, but of the amount of work done on these machines. And if the standards for sinking fund deductions be made as percentage of the book value, this will not correspond to the actual wear of this basic equipment.

Standards of deductions for repairs may be established in accordance with the physical parts of tractor and harvester combine assemblies, and with their costs. The Government Scientific Research Institute for Tractor and Agricultural Machine Repair and Operation has classified all repairable tractor parts into groups in accordance with the periods of time required for them physically to wear out. It is found that, in recent years, the replacement of spare parts has come to 48-50 per cent of the total expenditures on tractor repair. This makes it possible to determine the total sum of expenditures upon repairs for each year of a machine's use, as well as the repairs calculated in terms of hectares of easy plowing.

Let us use Altai and Krasnodar Territories and Kaliningrad Region as examples of the expenditures for repair of the DT-54 tractor, per hectare of easy plowing. The calculation is based on the percentage of total repair expenditures going to replacement of parts, as indicated above (in rubles and kopeks). (3)

It is evident from this tabular data that the costs of repair of a tractor differ sharply from year to year, depending upon the wear of parts and their cost. These expenditures fluctuate from 1 ruble 88 kopeks during the first year of use, to 9 rubles 40 kopeks during the tenth year, per hectare

Year of Operation	Expenditures per DT-54 tractor per year		Expenditures on repairs calculated per hectare of conventional plow land		
	On spare parts	Repairs as a whole	In Altai territory	In Krasnodar territory	In Kalinin Region
1st	1,275-26	2,650	1-88	1-42	3-28
2nd	3,296-69	6,860	4-86	3-68	8-52
3rd	2,305-58	4,810	3-41	2-56	5-96
4th	4,811-20	10,020	7-11	5-36	12-40
5th	2,083-51	4,350	3-08	2-32	5-41
6th	4,649-28	9,720	6-87	5-19	12-12
7th	1,830-08	3,820	2-71	2-04	4-74
8th	5,084-56	10,580	7-51	5-61	13-11
9th	2,341-76	4,860	3-44	2-59	6-05
10th	6,382-29	13,250	9-40	7-09	16-41
11th	1,275-26	2,450	1-73	1-31	3-04
12th	6,163-84	12,810	9-11	6-85	15-90
13th	2,285-26	4,760	3-38	2-54	5-91
14th	3,938-40	8,210	5-82	4-39	10-21
15th	3,165-73	6,610	4-68	3-54	8-22
16th	5,084-84	10,550	7-50	5-63	13-15

of easy plowing. If all these costs are allocated directly to the cost of tractor operation or of produce each year, sharp fluctuations in cost level will result. However, the financing of planned maintenance of equipment out of a sinking fund eliminates unevenness in the level of expenditures upon repairs, and makes it possible to provide a correct estimate of the activity of the enterprise in fulfilling the cost plan.

The differences in magnitude of expenditures upon repairs testify to the need to establish different standards of deductions per hectare of easy plow land for allocation to the repair fund per year of operation, and per model of tractor and harvester combine. However, to establish deduction in this manner would seriously complicate accounting, planning, and the financing of repair expenditures. To avoid this, it is desirable to establish standards of repair deductions to be made into the sinking fund on the basis of hectares of work performed, varying with geographic zones, and also with tractor models. When this is done, funds not used during one year constitute a reserve to finance the repair of equipment the next.

Amortization standards should make provision for expenditures for the total planned maintenance work on equipment, without subdivision into major overhaul and current repairs. They should be differentiated in the first place by model of tractor and harvester combine, and in the second place, in terms of the various soil and climatic zones of the country. These standards should be based on practical data, should take into consideration progressive experience in economizing such costs, and should provide for corrections resulting from scientific studies of the service life of tractors and harvester combines as a whole, and of individual assemblies and parts thereof.

Let us present an example of the calculation of standards for amortization of the DT-54 tractor with hydromatic shift, based on a service life of 12 years, and a wholesale price of 25,000 rubles. Using the data in the table, we calculate this standard on the following formula:

$$H_a = \frac{S \cdot 100}{T \cdot C}$$

where H_a is the standard amortization, S is the calculated total amortization, T is the assumed service life of the tractor, and C is the cost of the machine. The table shows that spare part costs for the repair of the DT-54 tractor in

twelve years of service, when utilized to the full, come to 35,336 rubles. If it be considered that the share of the expenditures on spare parts, in accordance with the annual reports of the machine and tractor stations of recent years (1955-1957) came to 48-50% of the total repair costs, the total costs of repair of a DT-54 tractor in twelve years come to 72,000 rubles. The tabular data make it possible also to calculate the magnitude of the liquid residue for spare parts after 12 years of service of the tractor (2,843 rubles). Allowing for the new wholesale prices set in 1958 for equipment and spare parts sold to collective farms, the repair costs come to 75,735 rubles, and the liquid residue to 3,124 rubles. Thus, the total sum going to the replacement and repair sinking fund for the given tractor is:

$$25,000 + 75,735 - 3,124 = 97,611 \text{ rubles}$$

$$\text{and the standard deduction for the sinking fund is}$$

$$\frac{97,611 \cdot 100}{12 \cdot 25,000} = 32.5\%$$

of the cost of the tractor (of which 7.3% is for replacement of the machine, and 2.52% is for repairs.)

However, in determining the standard deduction into the sinking fund not on the basis of the cost of the tractor, but on work done per hectare of easy plowing, and with utilization of the equation above we derive:

$$H_a = 97611 \times 100 / 12 \times 1500 = 5 \text{ rubles } 42 \text{ kopeks per hectare of easy plowing of which } 1 \text{ ruble } 22 \text{ kopeks is for replacements (22\%); and } 4 \text{ rubles } 32 \text{ kopeks for repair (78\%).}$$

Both variants of calculation of standard sinking fund deductions for tractors and harvester combines make it possible to establish more accurate standards, differentiated by model of machine, and for different zones of the country in terms of nature and climate. On the basis of these sinking fund deduction standards calculated by make of tractor and harvester combine, it is possible to determine the average sinking fund deductions for all models of tractors or harvester combines to be recommended to collective farms or state farms for each individual zone.

An enormous role in cutting repair costs is played by establishment of a correct procedure for granting of bonuses to machine operators.

The present system of bonuses to tractor operators in the machine and tractor stations for savings and repairs is sadly lacking in many respects. In the first place, the tractor operator was required not only to carry out the

standard amount of tractor work, measured in easy plowing, between scheduled repairs, and to record savings in repairs; but also to see to the carrying out of various types of tractor operations as set forth in the agreement (spring sowing, harvest, winter sowing, etc). However, fulfillment of various types of work was very often not up to the tractor operator, but was determined by conditions of production, and the operators were shifted from one type of work to another. As a result, many operators did not receive bonuses although they had earned them. In the second place, the size of the bonus for economy in repairs was based not as a percentage of the total saving, but was set as a fixed scale; and this also failed to make for a material self-interest in maximum saving of repair costs.

It is therefore necessary to establish an operator bonus procedure of such nature as to stimulate maximum earning per tractor and assure the best possible maintenance thereof. It appears desirable to us to set the bonuses for collective farm and state farm machine operators as 25-50% of the sum saved in repairs and in technical maintenance, determined by the plan for the given year, if the tractor and the harvester combine has carried out its assignment in hectares of easy plowing. At the same time, it is obviously necessary to provide bonuses for good quality of tractor and harvester combine repair for the workers in the repair and equipment stations who carry out the repair upon a given tractor. If a tractor or harvester combine repaired by a repair and equipment stations shows, over a year, a saving in repair costs and in technical maintenance alongside fulfillment of the planned standard of work performance, the repair and equipment station should pay bonuses to the workers out of a fund derived from its share of the profits.

The establishment of such a system of providing premiums for machine operators at collective and state farms, and also for the repair workers of the repair and equipment stations would make for improved employment of equipment and a superior quality of repair operations, and for an increase in the production of agricultural produce.

Today, particular importance attaches to the establish-

ment of a proper system of sinking fund deductions, a proper procedure for the payment of work performed by machine operators, with due allowance for stimulation of improvements in the utilization of equipment, and also to an improvement in the organization of current and major overhauls of agricultural equipment. The widespread introduction of cost accounting in agricultural enterprises requires a pronounced improvement in bookkeeping and analysis of expenditures of past socialized labor, particularly in the means of production; and also the discovery of all reserves and factors that may be employed in raising the productivity of labor, and reducing the cost of agricultural production.

Improvement in the utilization of the basic equipment of agricultural production is an important factor in improving the social productivity of labor and reducing the cost of production in agriculture. This makes it possible for collective farms to speed technical progress, to increase gross and market production, and to attain a further upsurge in production, with the object of achieving abundance of agricultural produce in our country.

FOOTNOTES

(1) The average seasonal work performance of machines owned by machine and tractor stations during 1956-1957 is used to determine the total deductions for amortization per year for replacement (the state farms do not differentiate tractor earnings by model of tractor).

(2) These data are taken from documents for the discarding of equipment by entire territories and provinces, and represent a sampling of 50-100 tractors of each model.

(3) According to the data of the GOSNITI, the DT-54 tractor requires the replacement of 3,296 rubles, 69 kopeks worth of parts within two years' time. Employing the percentage of repair costs going to spare parts indicated above, the total cost of repairs comes to 6,860 rubles; and that per hectare of soft plowing, $6,860 : 1,480 = 4$ rubles 4 kopeks.

A. Kazantsev and I. Levchuk:

The Problem of Opening Credits for Capital Investment*

In recent years, credits by the State Bank of the USSR to enterprises for introduction of new equipment, and for mechanization and improvement in the technology of production have come into wide use. In conjunction with a resolution of the party and the government titled *The Role and Objectives of the State Bank of the USSR*, of August 21, 1954, credits of this type are available to all enterprises regardless of the jurisdiction controlling them. Up to the middle of 1955, a complex procedure for the issuance of loans inhibited the development of the extension of credit for mechanization. On the basis of the problems posed by the July 1955 Plenum of the Central Committee of the Communist Party of the Soviet Union, the State Bank substantially simplified this procedure. The terms of credit were increased from one to two years and, in a number of cases, for enterprises in the field of heavy industry, to as long as three years. The struggle for technological progress that developed after the July Plenum of the Central Committee of the Communist Party of the Soviet Union, and the reorganization of the procedure for issuance of credits, resulted in a further expansion of the issuance of credits for introduction of new equipment and mechanization of production. Thus, State Bank credits for these purposes, as of January 1, 1958, came to 3102.8 million rubles as against 999.2 million rubles at the beginning of 1956, and 195 million rubles at the beginning of 1955.

State Bank credits for introduction of new equipment and the mechanization of production came into particularly widespread use after the 20th Congress of the Communist Party of the Soviet Union, fulfillment of the decisions of which requires mobilization of all available resources. In 1955, the total loans extended for introduction of new equipment came to 1359 million rubles; in 1956, to 2971 million rubles; in 1957, to 3436.9 million rubles. In 1956, credits were extended for 5,178 different undertakings (as against 34,458 in 1955).

The nature of the undertakings for which credits were extended has also changed. Thus, in accordance with the data of the Sverdlovsk Branch of the State Bank, enterprises had previously been granted loans for mechanization of individual industrial operations, but at the present time they are being granted loans on a large scale for a complex of measures embracing the reconstruction of branches of production and departments as a whole.

Moreover, in recent years serious structural changes have been made in the State Bank's investments for credits for technical improvements in production. Heavy industry occupies first place as far as rate of growth of credit issued by the State Bank for these purposes is concerned. During the past two years, the indebtedness of enterprises in this branch of industry for loans for introduction of new technology has increased 4.3 times, whereas the total increase of credits for this purpose during this same period was 3.1 times. As of January 1, 1955, the share of credit outlays by the State Bank for mechanization of production in heavy industry was only 2.1 per cent of the total sum of

credits for these purposes. But as of January 1, 1956, it was already 21.3 per cent; and as of January 1, 1958, it was 29.3 per cent. The share of the machinery industry therein was 14.1 per cent, and that of the metal working industry, 5.5 per cent of the total credits. The share of credit investments in light industry also increased from 4.9 per cent on January 1, 1955, to 15.3 per cent on January 1, 1958, while the respective figures for agricultural and purchasing organizations were from 0.1 to 8.6 per cent. At the same time, the share of the food industry in the total volume of credit investments for mechanization dropped from 74.4 to 25.5 per cent.

The economic institutions and the branches of the State Bank have acquired experience in the granting of credits for technical improvements and production. Analysis of this experience makes it possible to draw a number of important conclusions. The most significant, in our opinion, have to do with questions in the field of the directions of and the limits of the extension of credits for capital investments, and the sources of repayment of this type of bank loan.

The overwhelming majority of the measures envisaged by plans for introduction of new technology and mechanization of production are, as we know, included in the annual and long range plans of capital investment, and are financed by the long term credit banks. The financing of capital investment is done primarily by appropriations from the national treasury out of the budget, and by a portion of the inner accumulations and sinking fund deductions taken by various enterprises. It is not only the financial sources of capital investment that are planned, but material, technological, and labor resources as well.

However, not all the measures taken for technical improvement of production can be foreseen and envisaged in the compilation of the capital investment plans. The point is that the workers, the engineering and technical personnel, and the office workers of our industrial enterprises annually propose tens of thousands of suggestions for rationalization, the execution of which requires additional financial resources. The enterprises themselves often lack such funds. To provide for such proposals in the plan means that they can only be carried out during the following calendar year. Under these conditions, the enterprise has to make use of bank credit, and this gives it the means for carrying out organizational and technical measures.

Credits for mechanization must, primarily, be a means of maintaining local business initiative. They make it possible rapidly to carry out measures for the technical improvement of production that will pay for themselves in brief periods of time. To assure a source of financing for a number of measures in mechanization of production provided for during the course of fulfillment of the plan is the objective of short term crediting of capital investments.

However, experience shows that in recent years, the expansion of the granting of credit for capital investment is not taking place in this direction alone. Frequently, credit for technical improvement of production serves the function

* Written to pose the problem.

not only of an additional source of financing, making for operative realization of measures arising out of local initiative in the course of fulfillment of production orders and not foreseen in the plan for capital investments, but also as a source of funds making possible the execution of planned measures for the introduction of new equipment. Thus, development of State Bank credits is, to a considerable degree, a process of partial replacement of the free grants for the financing of capital investments by loans on the part of the State Bank.

The role of State Bank credits as a source of capital investments may be illustrated by the following examples: In 1948-1949, the total granted for mechanization and automation of production, and the introduction of new technology in the food industry of the RSFSR, was 192 million rubles, the total volume of capital investments made out of free grants being 170 million rubles. In 1957, the total capital investment for acquisition of equipment was 281.2 million rubles in direct grants, plus credits for this purpose planned at 309 million rubles.

In the most recent years, the ministries and the chief administrations of enterprises of the food and light industries have been planning coverage of their capital expenditures for equipment purchase out of State Bank loans. The credit resources made possible, for example, expenditures provided for in the national economic plan for introduction into production of the method of lime separation for extraction of additional sugar from treacle, expenditures upon the extraction of oil cake produced in the manufacture of vegetable oils, and also for an increase in the productive capacities of the canning plants, etc. In the Krasnodar, Dagestan, Stalingrad, and other economic administrative districts, the 1957 plan envisaged an increase in the capacities of the canning plants out of bank loans. In order to provide for prompt introduction of additional capacities into operation, capacities that have developed as a result of bank loans, the assignment of building materials to the canning industry is planned. In the baking and confectionery industries, plans for execution of measures embracing introduction of new techniques, mechanization, and automation of production, have been carried out almost exclusively by State Bank credits over the past ten years.

Bank credit plays an important role in the financing of planned measures for improvements in production in heavy industry as well. Thus, the Moscow Likhachev Auto Plant made use of 37.6 million rubles of State Bank credits to carry out 57 measures for introduction of new equipment between August 1955 and April 1957. Of these, twelve measures had been provided for in the plan for introduction of new technology approved by the State Technical Organization (Gostekhnika) and consequently should have been provided for in the plan for financing of capital investments.

In order to carry these measures out, permission was granted for loans to a total of 19.2 million rubles.

The greater portion of expenditures involved in introduction of new technology, and submitted to the State Bank for credits, constitute expenditures for carrying out measures envisaged by the National Economic Plan, and therefore obligatory for the plant but not provided for in the plan for financing capital investments. Consequently in the given case, State Bank credits actually represent amendments to the plan for capital investments in the plant, a fact to which the following data will testify.

The sum of State Bank credits granted to the Auto Works in 1955 came to 51 per cent of the planned capital investments for industrial construction there, and 85 per cent of the planned investments for acquisition of equipment, while in 1956, the respective figures were 36.5 and 59 per

cent. State Bank credits were used in this case chiefly as an advantageous means of financing sources of technical measures which had been postponed in priority, or had not been included in the plan of capital investments for some other reason.

This is also testified to by data on the Middle Volga Machine Tool Plant. In 1956, this plant got eight loans from the State Bank for introduction of new equipment totalling 302,000 rubles, while in the first half of 1957, they got eight more loans totalling 1332 thousand rubles. In 1956, the State Bank granted this plant credits totalling 8.2 per cent of planned capital investments thereof, and 14 per cent of the planned capital expenditures for acquisition of equipment, while, in the first half of 1957, the corresponding figures are 111 and 205 per cent.

The institutions planning capital investment outline in advance the utilization of credit allocated for carrying out of measures not envisaged in the National Economic Plan as a source of funds for planned undertakings. In fact, this credit is used to carry out planned measures for which free grants to the necessary total sum have not been made. Consequently, the State Bank, in providing credits for capital investments, is making "corrections" in the National Economic Plan, and this, in our opinion, is something that cannot be deemed proper. Not infrequently capital investment for introduction of new equipment is carried out on the basis of funds from two sources: free grants and State Bank credits. In many cases, the funds for acquisition of equipment by an enterprise are acquired as free grants. And the funds for the installation of this very equipment come from State Bank credits. Thus, the Leningrad Vereteno factory had planned 14 million rubles worth of purchase of machinery and equipment from free grants in 1957. However, only 50 per cent of this sum was provided for in the financing arrangements for capital investment. In this connection, the factory had to ask the State Bank for a loan of over 6 million rubles. The Leningrad Anisimov factory obtained loans in 1955-56 for 240 new looms. At the same time it got 144 similar looms by free grants.

Data are also available showing that undertakings for which credit is provided by the State Bank were then taken over by the long term investment banks for financing by free grant. In these instances the State Bank credits were paid for by the final source of financing. Credits extended for equipment of the power plant of a dairy and canning enterprise totalling more than one million rubles were paid for in this way, as were those for a plant engaged in manufacture of haberdashery and mirrors, to a sum of 256,000 rubles (Belorussian Soviet Socialist Republic); the Dzerzhinsky Plant, 402,000 rubles (Vladimir Region); seven enterprises in Kiev and Kiev Region, over five million rubles. In 1956, in the Kazakh Republic, free grants were employed to pay off mechanization credits for 19 undertakings to a total of 3.7 million rubles.

As a rule, the extension of State Bank credits for expenditures for introduction of new equipment and the mechanization of production proceeds most extensively during the second half of the year, and particularly during the fourth quarter. This is explained by the fact that the enterprises apply to the State Bank for credit only after the annual plan for organizational and technical measures for funds for equipment and materials, and also for sources of financing out of the capital investment plans have finally been approved in precise detail during the first half of the year. Let us adduce data on the issuance of loans by the State Bank (by years in millions of rubles). [See the following page]

	1955	1956	1957	1958
I Quarter	91.6	426.0	474.2	609.3
II Quarter	241.5	752.5	871.9	1,100.0
III Quarter	355.7	885.6	1,012.6	1,214.6
IV Quarter	670.2	906.9	1,078.2	—

Thus, 75.5 per cent of all credits issued in 1955 were paid out during the second half of that year while in 1956, the corresponding figure was 60.3 per cent, and in 1957, 60.7 per cent.

The partial replacement of financing of capital investments by bank credits comes out of the resources of the State Bank. This is particularly important today when there is as yet no exact determination of the conditions under which expenditures for improvements in production are to be paid for out of free grants and when they are to be paid for out of credits and at a time when the business organizations and banks still do not have at their disposal a scientifically founded method of determining the planned rate of repayment of capital investments; and, to an even greater degree, the real rate. Moreover, in practice, in solving the problem of sources for repayment of bank credits, the very idea of bank credits as a source for the financing of technical improvements is not always taken into account.

Financing as a method of provision of credits for capital investments corresponds most closely to the concept of realization of capital investments in accordance with a single national economic plan, and makes it possible to concentrate the necessary resources at the decisive sectors of economic upbuilding. The system of financing that has come into being makes for a scientifically well-founded selection of objects on which expenditures are to be made, and also for monitoring in a technically correct manner, the execution of the envisaged plans of work, and also for financial control over the adherence to costs stated.

However, the planning of the financing of capital investments has many important shortcomings, the most important of which is weak control over the realization of the capital investments, adherence to the time periods and estimated costs of construction, and the carrying out of organizational and technical measures. These and other shortcomings not infrequently lead to dissipation of funds among a large number of undertakings, and a stretching out of the period required to place major capacities in operation, etc.

It should, however, be noted that these shortcomings are conditioned not by free grants as a method for providing the means for capital investment, but by the practices that have developed in connection therewith, and are therefore capable of elimination. When credit is used as the means of providing funds for capital investments, these shortcomings manifest themselves to a lesser degree. It is important that measures for which loans are requested be carried out on the basis of calculation of the acquisition of additional accumulations necessary to pay off the loans in a specific time set in advance. Credit should be intimately connected with the results of the execution of the measures for which it is requested, and also with the terms allotted for placing the given new equipment in operation. When such a relationship is established, conditions are created for monitoring the carrying out of the capital investments for the purpose of introduction of new equipment and for the mechanization of production. The need to pay off the credits in the established period out of additional accumulations required by the utilization of the technical improvements places specific responsibilities upon the economic institutions. The enterprises must make a rational use of credit

for the production of new technology and the mechanization of production, and must carry these measures out in the set periods of time. The fact that credits have to be repaid, and the possibility arising therefrom of monitoring the work of the enterprise, constitutes the advantage of this system over the financing of capital investments by free grants. In this connection, there are writers who have suggested a wider utilization of credit, and even the replacement of the financing of measures for technical improvements of production by bank credits.

When financing is by free grants, an equivalent for the capital investments made is returned to the government indirectly in the process of expanded socialist reproduction through the sinking fund deductions of the enterprises, and also through an increase in income to the national treasury as a result of the expanded productive capacities of the given enterprise. When the credit method is used to cover introduction of expenditures for new equipment, an equivalent for the means made available to the enterprise has to be returned directly to the bank in a stated period of time.

To make good bank loans for mechanization, it has been proposed to utilize the additional accumulations resulting from the execution of organizational and technical undertakings with credit funds. However, it did not prove possible to introduce this procedure when crediting was established on a large scale, as it was not possible to determine and to set aside the additional portion of accumulations out of the total sum of income of the various enterprises. The requirements that credit be repaid out of additional economies or additional accumulations is today not realizable in practice. The point is that the economies from realization of measures to introduce new technology are reflected in the plans of cost and accumulations of subsequent years. That is to say, they are included in the profit distributed in accordance with plan. Therefore, it became necessary to include in the income and expenditure books of the enterprises, the accumulations assigned for paying off bank loans for the introduction of new technology.

Thus, there has recently been a significant disruption of the connection between the granting of credits and the results of measures carried out for purposes of mechanization, and this is testimony to the advantages of the crediting system of capital investment over that of free grants. Starting in 1957, credits for mechanization scheduled for repayment during the following calendar year are, as a rule, made good not from the added economies due to the execution of these organizational and engineering measures, but out of planned accumulations. The repayment of credits is now related to the results of the work of the enterprise as a whole, and not to the results of the exploitation of new equipment and other measures carried out as a result of the credits granted.

The situation would apparently be similar to this when the function of the granting of credits for expenditures for technical improvement of production is transferred to the long term investment banks, while there would be no advantage in the method of making advances for expenditures for capital investments by the method of credits.

Under the conditions that have developed, the State Bank's ability to monitor the execution of organizational and technological measures for which credits have been granted has been weakened. The repayment of credits transferred to the next calendar year out of planned income involves a number of negative consequences. This situation directly affects the interests of the budgetary system. Inasmuch as the payment of credits is out of the sums accumulated

by the enterprise for the national treasury, and planned toward this end, this means that a portion of the funds earmarked for the national treasury actually goes to capital investment. Consequently, credits extended by the State Bank to carry out measures not envisaged by the plan for capital investments are listed in the budget for subsequent years as appropriations for the repayment of bank loans. And when it comes down to the essence of the matter, this constitutes a compulsory supplement to the total financing of capital investments established by the National Economic Plan, and also represents a significant amendment to the proportions established in that plan.

It should also be taken into consideration that planned profits are also employed in fact to repay all loans regardless of the efficiency of the measures for which credits are being extended. In cases in which measures for the technical improvement of production, carried out by means of credits, were economically effective and paid for themselves completely in the period planned, the financial position of the enterprise did not become difficult. The situation is entirely different if the measures are not adequately efficient, and also if the planned term for repayment of the credits is violated for one or another reason. In this situation, the repayment of the loans is completely or partially carried out, out of rotating capital. This results in immobilizing this capital, and later gives rise to the necessity to make good the shortage of circulating capital on the part of business enterprises. And this also, in the long run, treads upon the interests of the state budget.

The repayment of all loans out of planned profit, regardless of the actual economics of the measure for which they were issued, reduces the responsibility of the management of the enterprise for the efficiency of these measures.

The experience of the State Bank in extending credit for mechanization expenditures shows that worthwhile results are obtained when credits are used to cover a considerable proportion of investments not envisaged in the plan.

Technological improvement in production by means of bank credit makes for an increase in output of production and accumulation at socialist enterprises. Thus, in 1956, as a result of the utilization of credit for mechanization of production, additional products to a total value of 4,193 million rubles, or an average of four rubles and 6 kopeks for every ruble of credit repaid, was recorded. An additional economy of 1,278 million rubles was accomplished, or an average of 1 ruble 24 kopeks for every ruble of credit repaid. The petroleum, light, and meat packing and dairy industries showed the most efficient utilization of the credits extended. Enterprises in the petroleum industry, for example, yielded 9 rubles and 46 kopeks in additional output for every ruble of credit, and 1 ruble 37 kopeks of additional economy.

However, capital investments, with the aid of bank loans that proved inefficient, are still not rare. State Bank data show that there was something of a decline in the efficiency of utilization of credit in 1956 and 1957. This is explained to a considerable degree by the fact that, in recent years, some enterprises have submitted undertakings for credit that really should not be financed in this way. The scale of the income obtained in many cases does not make possible repayment of expenditures, even over the maximum period for which credits may be extended. Thus, the percentage of the credits issued by the Byelorussian Office of the State Bank for introduction of new technology not repaid in the agreed-upon period, or, in other words, made good out of the circulating funds of enterprises, was 17.5 per cent in 1956, and 14% in nine months of 1957.

It should be noted that a practice under which the income

and expenditure books of branches of industry or individual enterprises do not provide the planned income required to make good credit extended by the State Bank for the purpose of technological improvement and production has negative consequences. In 1957, the scale of accumulations by many enterprises and organizations assigned to repayment of credits in the income and outgo books of many enterprises and organizations was considerably smaller than the total sum of loans from the State Bank recovered from business institutions in accordance with the planned, and even in accordance with the maximum periods of repayment. Consequently, these enterprises and organizations planned a repayment of a portion of the credit out of circulating capital.

But this does not exhaust the negative consequences of the present procedure for planning the financial sources of repayment of loans. We know that in cases in which the repayment of credits is not provided for in the income and expenditure balance of the enterprise, the State Bank ceases to extend credit to such enterprises. And this in turn makes it necessary that subsequent expenditures for capital investment in a project already undertaken have to come out of circulating capital, or out of creditor loans. Instances of this kind that may be cited are by no means isolated. By way of example, we cite the Yaroslavl Linen Combine, "Dawn of Socialism." This enterprise was supposed to repay in 1957, a 2,460 thousand ruble credit in accordance with the terms of repayment of expenditures for improvement of production for which the State Bank provides credit. However, the financial plan of this combine provided only 1,400 thousand rubles to make good the bank loans. Due to the fact that the credits were not paid off during the maximum period — two years — the issuance of loans for expenditures and new equipments was cut off as of May 1957. However, the combine continued to receive looms from the manufacturer, the Leningrad Karl Marx Plant. Five looms received out of schedule are being installed by the combine while the supplier's invoices are returned unpaid to the State Bank due to lack of sources of financing. Due to the shortcomings in financial planning, an excessively difficult situation has developed both in the functioning and the financial position of these two industrial enterprises.

The need for a more precise definition of projects on which expenditures for technical improvement of production may be made is needed in order to establish the most desirable form of financing, either via free grants, or via bank credits, and of monitoring during the duration of the execution of these projects. A number of writers suggest wider application of investments by means of credit, and the retention of free grants only for capital investments related to new construction. This posing of the question requires a broad discussion, with consideration of the experiences that have been accumulated in capital investments by means of credits. In this connection, let us pause to consider certain aspects of the question which, in our opinion, are of major importance, or directly affect the existing procedure for extension of credits for capital investments.

In the literature devoted to credits for expenditures upon mechanization, data are presented on the economic efficiency of measures carried out by means of credits. Not infrequently, the economic efficiency of credits is taken to mean increase in productivity of labor, reduction in cost of production, and a number of other factors. Often the desirability of the granting of credit, and the need for the further development thereof, are justified by the high economic efficiency of credit. However, to justify the desirability of mechanization of credits solely by the high efficiency of the expenditures is, in our opinion, incorrect. The point

is that the increase in the productivity of labor, and the reduction in the cost of production, is what makes possible measures for the technological improvement of production carried out with the aid of credit, and it is not the credit itself that does this. The same results from the introduction of new technology and the mechanization of production are obtained by free grants. Consequently, both under financing by credit, and by free grants, the economic efficiency of the enterprises is characterized by the identical factors, and cannot constitute a basis for expansion of the sphere of credit. Even less can it serve as the reason for replacing the financing of capital investments by a credit system. Nor can such an attitude be justified by the fact that in the last two or three years credit has, to a considerable degree, aided the expansion of the financial basis for the execution of measures for technological improvement of production.

The development of two methods of advancement of sums for capital investment (financing and the granting of credits), requires solution of the problem of sources of funds.

The financing of capital investments is done out of treasury funds, and out of the funds of the enterprises themselves (part of the profit, and the sinking fund deductions). At the present time, the State Bank is extending credits for capital investments out of its funds for short term credits. The transfer to State Bank credit of a portion of the capital investments (two- or three-year mechanization credits), was not accompanied by the formation of any specific additional sources of credit. The repayment of the credit is usually out of planned accumulations; or, in other words, in the last analysis, out of treasury funds.

Should the scope of credit be expanded, say by its use to replace the financing of a portion of capital investment (for example, all expenditures on the introduction of new equipment and the mechanization of production), the credit system will require special sources of funds for the extension of credit for capital investment, and also for the repayment of the credits advanced. The only sources available for this purpose are treasury funds, sinking funds, and the funds accumulated by the enterprises themselves, or, in other words, the same sources of income which now finance free grants. Thus, the replacement of free grants by credits yields nothing new as far as the sources of income is concerned. Should such a substitution take place, a completely new problem arises: the problem of distribution of, and accounting of the funds allocated to capital investment. The total sum of funds for capital investment has to be regarded as consisting of two separate items: one, that for the construction of, and reconstruction of existing enterprises by way of free grants and; second, the funds allocated to introduction of new technology and mechanization of production by means of credits. This classification of the sources of funds is necessary both in planning and in the course of fulfillment of plans for the formation of resources for capital investment, i.e., in the process of accumulation of funds. This complicates the work of the planning and financial institutions, and also that of the banks. But the distribution and accounting of the sources of capital investment is complicated even further in connection with the fact that it is not possible for all expenditures on the introduction of new technology to be financed by credits (for example, measures of an experimental nature, and certain others, the economics of which cannot be determined in advance). It is our opinion that classification of the sources of funds for capital investment by branches of industry and individual enterprises into free grants and credits would be exceedingly difficult and would not serve the purpose.

In determining the direction in which funds are to go, it is necessary to differentiate funds for projects to be given free grants, and funds for projects to be financed by crediting. And this also involves a number of difficulties. We know, for example, that the reconstruction of existing enterprises is a matter involving construction work, the installation of new equipment, mechanization, improvement of production processes, etc. Should there be a conversion to the financing of new technology and mechanization of production in the reconstruction of existing enterprises by means of credits, a portion of the capital expenditures will have to be met by free grants, and a portion out of credits. This, in our opinion, would not improve monitoring of the utilization of the capital investments. The question also arises as to the sources of funds for realization of organizational and technical measures, which do not bring additional income to the enterprises that carry them out.

It is not the economies or additional income resulting from the carrying out of measures for technological improvement of production that can be used as sources of funds to repay loans for this purpose, but the sinking fund accumulations of these enterprises. In this case, however, the result would be a disruption of the relationship between credit and the results of the measures carried out with its assistance; while the terms of credit, in point of time, would not be related to the length of time required for these measures to pay for themselves. And it would be impossible for the bank to exercise monitoring powers based on the profitability of these measures. In the second place, the problem of redistribution of sinking fund accumulations throughout the entire national economy would arise. Redistribution of sinking fund accumulations appears to be necessary not only between the departments of social production, but also among the branches of these departments, and also among the enterprises in these branches, for the total credit subject to repayment will not always correspond to the total sinking fund accumulations at a given enterprise or in a given branch of industry. Moreover, the utilization of sinking fund accumulations as a source of repayment of credit reflects upon the mutual relations of business institutions on the one hand and the government treasury on the other, and calls forth the need to organize special accounting of sources of funds for repayment of loans, etc.

Expansion of the sphere of credit by substituting credits for free grant financing of a portion of capital investments, reflects itself not only upon the work of the State Bank and the long term crediting banks, but also upon the work of the business organizations, upon the relations between these organizations and the banks on the one hand, and the state treasury on the other; and upon the system of planning and accounting of the financial resources for purposes of capital investment.

To find a fundamental formulation of the question of the possibility and desirability of replacing free grant financing of technological improvements and production by bank credits requires a broad discussion and an all-round consideration of the experiences available in free grant financing and credit financing of capital investments under conditions of administration of industry and construction by the economic administrative districts.

The system of advancing funds for capital investment must combine free grants for planned measures with credits extended by the State Bank for measures for technological improvements in production, not provided for in the National Economic Plan. Bank credit is called upon to assist the enterprises to carry out efficient, rapidly amortized expenditures on the mechanization of production, the need for

the execution of which is discovered in the process of the carrying out of the production plans. It is necessary to define, and very specifically to delimit, projects in which capital investment is to be made by free grants, and those in which it is to be made by the extension of credit. The erection of new, and the reconstruction of existing enterprises, the carrying out of organizational and technological measures amortized over long periods, and also of measures not accompanied by the formation of new accumulations or economies, should be covered by free grants. Credits should be used to handle only those organizational and technological measures that can be amortized in reasonably brief periods.

Under existing legislation, the State Bank extends loans to business institutions only for the execution of measures for technological improvements in production not provided for in the plans for capital investment. However, as a practical measure, determination of the measures to be covered by the extension of credits is difficult, as some of them are envisaged by a plan for organizational and technological undertakings by the business institutions of scientific and technical committees; but are not covered by funds allocated to execute these self-same measures.

A more precise delimitation of the projects to be aided by free grants, and those to be covered by the advancement of credit, requires a more exact definition of the concept "measures not envisaged in the plan for capital investments." This should be taken to mean those measures not embraced in the organizational and technical plans of business institutions, the plan of the State Technical Organization, and the lists of enterprises by name. It is important in this connection that the plans of organizational and technological measures be compiled in due time, and in accordance with a single method.

Unless these and other measures to define the projects to be given financing by credits, and those to receive financing by free grants are carried out, it is impossible to attain a normal, businesslike system of provision of funds through credits for objects of expenditure not foreseen in advance. Credits for expenditures on new equipment are planned and strictly limited. Even today, under the conditions of broad development of credit for this purpose, individual institutions and the State Bank do not find themselves capable of handling all requests by means of the credits to which they are limited for this purpose.* Some writers have suggested eliminating the limitation upon this type of credit, but this would have a negative effect upon the utilization of short term loans by the State Bank, and upon the control of monetary circulation. Strict limitation of credits assists in more careful selection of projects to which credits will be granted.

The question of selection of the most efficient projects for the granting of credits cannot be resolved solely by the State Bank and its institutions. It is also necessary to involve the managements of enterprises in the solution of this question. An important role here is played by the National Economic Councils. At the present time, loans for mechanization expenditures of more than one million rubles may be granted only at the request of the economic councils, their industry organizations, or the bureaus in charge of local industry whose function it is to monitor not only

* Branches of the State Bank are empowered to grant loans to business institutions for the purpose of mechanization only up to given financial limits. The limit for the extension of credit is the full sum of the credit that may be granted to business institutions as provided in the credit plan of the State Bank.

the amortizability, but the technical desirability of the measures. In individual cases, the planned efficiency of measures for the introduction of new technology is not attained, due to the fact that solution of granting of credits does not take adequately into account the equipment that is installed as the result of the State Bank credits and what is most important, the degree to which this equipment corresponds to the latest in technical progress. Thus the Voykov Flax Spinning Plant at Murom (Vladimir Region) was extended credit in August 1956, for the modernization of ten horn-type wet spinning machines to a value of 469,800 rubles. However, only four such machines were actually modernized, as in March 1957, the plant obtained new and more modern dry spinning machines for which it had received a further credit of 1,137,000 rubles. It should be noted that in August 1956, when the factory received a loan for expenditures in the modernization of the wet spinning machines, the Liebknecht Spinning Mills at Vyaznikovo in the same economic district, had employed credits for complete replacement of horn-type wet spinning machines by more productive dry spinning machines. Thus, one and the same equipment was introduced as a technological novelty at one enterprise, and was replaced by a more advanced type of equipment at adjacent mills.

The skill with which the planning of credits is done is of significance in assuring an approach to the selection of projects in which expenditures on new technology will be made by loans from the State Bank: an approach that will assure consideration of governmental interests. In our opinion, it is specifically in the process of the planning of credits that the national economic councils and the administrations in charge of local industry on the one hand and the departments and branches of the State Bank on the other, are in a position to make a properly reasoned selection of projects in which capital investments should be made for technical improvement of production, and where the allocation of credits should be decided. In this connection, it is important to overcome localist tendencies that have been manifested by some executives at the plant level in that they request funds from the bank for expenditures that are actually not capable of being amortized, in reality, in the period of time in which the State Bank is permitted to extend credits. An increase in the skill with which planned estimates of the economic efficiency are made and the period of amortization of the measures for which credits are requested is determined also constitute important considerations for successful execution of measures for delimitation of projects to be financed by free grants, and projects to receive credits.

The personnel involved in credit work at the offices of the State Bank are called upon to base themselves upon the planned undertakings of the enterprises and solve the question as to whether or not to accept a given project for capital investment as subject to the granting of credit out of the resources of a short term credit bank. Further, the State Bank institutions employ these estimates to establish fixed terms for amortization of the credit, and this decides in advance the utilization of a significant portion of the planned accumulations of the enterprise in the years to come. Therefore, the most insignificant errors in determining the efficiency and the amortization periods of expenditures for introduction of new technology will complicate the accumulation of rotating capital on the part of the enterprise, and also complicate its relations with higher institutions and with the government treasury as pertains to allocations for profits, while its relationships with the Bank are also impaired.

Calculations of economic efficiency and the amortizability

of expenditures, and also calculations of financial estimates for the purpose of receiving permission to obtain credits, are, as a rule, presented to the bank prior to the drafting of the technical plans for carrying out the given organizational and engineering measures. These latter are usually drawn up after the credit has been approved. Consequently, the calculations of efficiency and amortizability of these expenditures are often ill-founded. In this connection, changes and supplementations are made in the estimates as the given undertaking is in the process of execution, and this affects the period of time in which the measure is carried out as well as its economic efficiency.

In order to establish monitoring control over the economic efficiency and amortizability of capital investments made with the aid of credits and, in the long run, reflected in the state treasury, it is also necessary to solve the problem of the ways in which the reports made by business institutions will reflect the actual accumulations resulting from expenditures of funds acquired through bank credits. At present,

no properly elaborated method of determining the real efficiency of measures carried out by means of State Bank credits exists; and therefore, the reports of the business enterprises are usually founded on estimate indices.

The extension of credits by the State Bank for purposes of capital investment for technological improvements in production is of high importance to the development of production, improvement in labor productivity, and reduction in the cost of production. Moreover, it is necessary to carry out a number of measures to improve the work of the planning and financing organs, the economic organizations, and the institutions of the State Bank in utilizing short term credit for the introduction of new technology. In particular, it is necessary to increase the responsibility of the planning organs, the managers of enterprises, and the managements of economic institutions, and also the officers of the State Bank for the choice of projects for capital investment for technological improvements in production to be aided by credits extended by the State Bank.

V. Kondratyev:

The Role of India's Economic Collaboration with Countries of the Socialist Camp in the Development of India's Economy

One of the most important special features of contemporary international development is the appearance, the growth of, and the reinforcement of a many-sided collaboration between governments in the socialist camp and those underdeveloped countries of the capitalist world which have broken away from colonial slavery, have attained national independence, and have entered the road of independent development. The enormous historic significance of such collaboration was foreseen with genius by V. I. Lenin when he called for collaboration with the awakening peoples of the East and all the oppressed countries and gave them selfless help in economic and social innovation in the name of common struggle against international imperialism.

This appeal on the part of Lenin has been realized in practice ever since the triumph of the great October Revolution. Today, each day sees the development and the strengthening of the friendly relationships between the socialist countries and the economically underdeveloped countries of the capitalist world; primarily the countries of the East. The material foundation for this close collaboration are the economic relationships, new both in form and content, that have been established between these countries, and that are based on complete equality, respect for national sovereignty, and non-interference in internal affairs. These fundamentally new relations between states may be followed most clearly on the example of the economic relationships between the socialist countries and so great a country as the Republic of India, which is playing a significant role in the struggle of the peoples of the East against colonialism.

The appearance of the independent Indian Republic is one of the important developments in the contemporary East. However, the formation of the Republic represented a victory in the struggle for freedom by the people of India only in the political aspect. India has retained, from the two hundred years of dominance by the British colonialists, an exceedingly backward and lopsidedly developed economy, poverty, and ignorance. The only industries that might be deemed to be more or less well developed in the country are the light and food industries. Production of means of production was lacking for all practical purposes. Agriculture was in a state of decline. Foreign economic relationships, which were markedly expressive of non-equivalent exchange, were employed by English imperialism as a means of pumping the national wealth into the metropolitan country. It was particularly because of this that, upon the declaration of the independence of India, one of the most important trends in its internal and foreign policy came to be the struggle for the most rapid overcoming of its economic and technological backwardness; for the creation of a native industrial foundation as an essential material

base for assuring the national independence and the economic independence of the country.

The particular significance of external international factors for such economically underdeveloped countries as India is due primarily to the fact that the governments of these countries are not in a position to mobilize adequate resources for industrial development within the country. On the other hand, backwardness and lopsidedness in the development of Indian industry, and the absence of heavy industry, do not make it possible to carry out a renewal of fundamental capital and new capital construction on the required scale on the basis of resources available within the nation. Under these conditions, India is compelled to make use of international economic relationships as channels for acquiring financial means and means of production.

These are the fundamental factors which motivated the Indian Republic, and a number of other young sovereign states of the East, to activity in the field of international economic relationships.

It is quite obvious that, remaining within the limits of the world capitalist system, India is not in a position to refrain from participating in its anarchic markets. However, in the present international situation, this is no longer capable of leading to a disastrous undermining of its political sovereignty and its movement to economic independence. The capitalist states of the West have today lost their monopoly of export, import, and credit in the world market, for a world-wide socialist system has appeared, is undergoing successful development, and is becoming stronger. And this system, in view of the unswerving development of the planned economy of the nations participating therein, possesses extraordinary possibilities in the field of trade and economics.

The perspectives for the independent development of India, and of other young countries of the East, is today determined to a significant degree by the extent to which these countries take into consideration the new disposition of forces in the international arena in their foreign economic policy. The experience of the Republic of India is an obvious confirmation of this.

At the present time, the collaboration between this great country and the socialist countries is progressing successfully in the fields of economics and commerce, science and technology, and cultural relationships.

The Indian Republic has concluded trade agreements with all the countries of the socialist camp (except Albania and Mongolia). According to the data of the Indian Ministry of Trade and Industry, one-third of the trade agreements with foreign states are with the lands of socialism. It should be noted that, at the same time, India does not

Dynamics of Commerce Between the Indian Republic and Certain Countries of the Socialist Camp
(in millions of rupees) (2)

	1953-54 (3)			1954-55			1955-56			1956-57		
	Import	Export	Balance	Import	Export	Balance	Import	Export	Balance	Import	Export	Balance
USSR	5.9	11.5	+ 5.6	18.1	21.2	+ 3.1	62.1	32.6	-29.5	168.7	153.2	-15.5
Chinese Peoples Republic	9.8	8.0	- 1.8	20.3	29.6	+ 9.3	43.8	65.3	+21.5	75.3	28.6	-46.7
Czechoslovakia	11.4	31.5	+20.1	12.5	15.8	+ 3.3	28.8	13.3	-15.5	72.7	30.9	-41.8
Poland	1.6	1.5	- 0.1	42.4	4.6	-37.8	4.3	3.3	- 1.0	44.4	12.3	-32.1
Hungary	1.0	0.2	- 0.8	1.0	0.2	- 0.8	4.1	0.8	- 3.3	6.6	1.1	- 5.5
Bulgaria	---	0.05	+ 0.05	0.08	0.08	---	0.3	0.2	-0.1	2.2	0.5	- 1.7
Rumania	---	---	---	2.8	0.4	- 2.4	3.2	0.1	- 3.1	1.9	2.3	+ 0.4

have governmental commercial agreements with many capitalist countries (U.S.A., England, France, Belgium, Holland, and others). The commercial relationships of India with the countries of the socialist camp are expanding at extraordinarily rapid rates.

The trade between India and all the countries of the socialist camp increased from 83.4 million rupees in 1953-1954, to 612.2 million rupees in 1956-57; or, in other words, by more than seven-fold. During this period the volume of trade between India and the Soviet Union increased almost twenty times; Poland, 19 times; the German Democratic Republic, 13 times; with Peoples' China, 6 times; Czechoslovakia, 2.5 times. The first commercial operations have begun between India and the Democratic Republic of Vietnam and the Korean Peoples' Democratic Republic.

An analysis of a list of commodities offered for sale by the countries of the socialist camp to India, reveals a number of distinctive features. Thus, the list of commodities for export to India from the USSR shows that machines and equipment number 25 out of a total of 44 items; 41 of 110 from Czechoslovakia; 44 of 83 from the German Democratic Republic; 36 of 70 from Hungary; 18 of 42 from Poland. (4) If industrial raw materials and materials, various types of laboratory equipment be included in this analysis, it turns out that approximately three-quarters of the total list of commodities sold by the countries of the socialist camp to India directly serve the objects of its industrial development and the technological progress of its economy. On the other hand, the list of commodities offered by India for export to socialist countries is exceedingly varied. Thus, the list of commodities for sale to the USSR totals twenty-five items; to Czechoslovakia, 30; to the German Democratic Republic, 66; to Hungary, 63; to Rumania, 28, and so forth. These include not only the traditional Indian export items, such as jute products, tea, spices, mica, iron and other ores, shellac, leather and hides; but such products of the developing Indian national industry as bicycles, chemical products, certain types of machine tools, instruments, etc.

The Soviet Union, which is a major supplier of means of production for India, and a major purchaser of many of its commodities, occupies a significant and continually increasing share in the commerce of India with the countries of the Socialist camp. Soviet machines, material, and equipment are being employed ever more widely in India for the development of its economy; and, in the first place, for its industry. In India's most important industrial centers—Calcutta and Bombay—display rooms for Soviet equipment have been opened and are functioning effectively.

Foreign trade relations between two great powers, India and China, have attained significant scope. It is typical that, during the period when the trade agreement between

these two countries was under negotiation—October 1954—certain reactionary elements in India, and outside its borders, asserted that the prospects of development of trade between these countries were unfavorable. Life has contradicted these preconceptions. The organ of the Indian National Congress Party, "The Economic Review," writes along these lines:

"Although one cannot deny the fact of the similarity of the economies, the great size of these two countries and the variety of their products nonetheless create the basis for large scale trade. We believe that the results of the trade that has begun between these two countries are exceedingly encouraging. We are convinced that, as the economies of these countries develop, and as we now see them developing, new paths for mutually profitable trade will appear." (5)

Let us examine the structure of the trade between India and the countries of the socialist camp. Calculations we have made on the basis of the data of the Indian customs statistics show that machinery, equipment, metals, and metal products constituted 94.2 per cent of Indian imports from the USSR, measured in cost; 85.6 per cent of imports from Poland; 84 per cent from Czechoslovakia; 81.8 per cent from Bulgaria; 70.3 per cent from Hungary; and 38.9 per cent from the Chinese Peoples Republic. Of considerable significance for the Indian economy is the shipment of rolled ferrous metals from the USSR and Czechoslovakia; of railway rolling stock, equipment for sugar plants and textile mills from Czechoslovakia and Poland; of electrical equipment from Hungary and the German Democratic Republic; of chemical fertilizer from the German Democratic Republic; and of cement from the USSR and Poland. Virtually all the lands of the socialist camp are exporting industrial products to India. Thus, seven states in the camp of socialism ship it products of the electrical manufacturing industry; eight ship chemical produce; seven ship machines and equipment. Ferrous metals and products thereof are shipped to India not only by the USSR and Czechoslovakia, but by China, Hungary, Poland, Rumania, and Bulgaria.

The share of the socialist countries in the total of Indian imports is not large. It was only 4.7 per cent in 1956-1957. However, the data adduced in the table show that it is increasing rapidly. If the structure of the import of those commodities that are of particular import to the Indian economy at present be examined, it will be found that, for example, in 1956-57, almost 15 per cent of the Indian import of metals and metal products came from the countries of the socialist camp. Expansion of India's import from the socialist countries of commodities designed to develop as industrial production does not comply with the interests of the imperialist states. The American newspaper, The New York Times, noted with dissatisfaction in October 1957, that:

"India's import program today is directly related to industrial development."

In coming to this conclusion, the newspaper referred to the new trade agreement between India and Czechoslovakia signed September 30, 1957.

The export of commodities from India to the socialist countries is increasing. Thus, exports from India to these countries increased from 52.95 million rupees in 1953-54, to 238.2 million rupees in 1956-57, or more than fourfold. Of the export deals made between India and the governments of the socialist camp in 1958, we note the sale of 450,000 tons of iron ore to Poland for delivery over a three-year period, of turner's lathes to Peoples China; of cashews to the USSR and the German Democratic Republic. The Soviet Union has become a new market for Indian footwear, woolen products, large lots of tobacco, leather raw materials, and shellac.

In examining the economic relationships between India and the lands of the socialist camp, it is necessary to take into consideration the fact that commercial operations between India and these countries are carried out on the basis of just export-import prices. B. K. Nehru, leading the Indian delegation (which conducted conversations in Washington at the beginning of 1958 on a loan to India by the United States), in discussing Indian-Soviet economic relations, noted that India was by no means overpaying the Soviet Union for the industrial equipment delivered.⁽⁶⁾

An important feature of the commercial deals and commercial agreements between India and the countries of the socialist camp is the fact that the Indian rupee is utilized as the currency on the basis of which accounts are settled. The form of settlement of accounts in commercial deals between the socialist countries and the Indian Republic is being perfected. In accordance with agreements concluded between these countries and the Government Commercial Corporation of India, funds received from the sale of commodities to India by the socialist countries are calculated in rupees in special accounts in Indian banks, and are then used for the purchase of Indian commodities. This assures India of a stimulus to its export trade. Agreements of this type have been concluded by the Government Commercial Corporation of India with, for example, Hungary, the German Democratic Republic, Poland, and Czechoslovakia.

Among the measures directed toward expanding the trade between India and the Socialist countries, the following are to be noted: the opening of direct steamer communications with the Soviet Union and Poland; the agreement of a number of socialist countries to expansion of carriage in Indian bottoms in the transportation of freight in both directions; the organization of exhibitions and display rooms and expanded printed advertising by India and the socialist countries, etc. As concerns the trade between India and the Soviet Union, the newspaper *Hindustan Standard* of December 31, 1957 wrote:

"What are the prospects for the development of Indian-Soviet commercial cooperation? This question is often posed. It may be answered that these commercial relationships have a very big future ahead of them. Favorable economic prerequisites for their development are obvious. Indian-Soviet commercial collaboration is useful and profitable to both countries. And all the conditions necessary for the further development of such collaboration exist."

It is completely obvious that this declaration may be applied as well to the relationships between India and other countries of the socialist camp. Between the Indian Republic and the socialist countries, despite the differences in their social and economic structure, there is complete

understanding of the need for broad expansion of their economic ties.

The economic relationships between the Indian Republic and the countries of the socialist camp are not limited solely to foreign trade. The new situation created in the world arena by development of the new socialist system, and the progressive decay of the colonial system, has established the prerequisites necessary for the development of an all-sided economic, and scientific and technological collaboration between the socialist countries and the sovereign states of the East. The countries of the socialist camp assist the underdeveloped countries to overcome their technical and economic backwardness, to develop their industry and other branches of their economy on the basis of a modern foundation in science and technology. What are the major trends and special features of the collaboration between India and the countries of the socialist camp in this respect? Under today's conditions, the participation of the socialist countries in resolution of the central economic problem facing India, that of creating the foundations of a national industry and of accelerated industrialization, have logically come to be dominant. The view expressed at one time by the Indian Planning Commission to the effect that metallurgy and the manufacture of machinery must acquire a predominant role in the upsurge of the nation's industry, inasmuch as their development governs the rates of the progress of the economy as a whole, is shared in the lands of socialism.⁽⁷⁾

The fact that India has therefore proceeded to give first priority to the development, with the aid of other countries, of its ferrous metallurgy, the present status of which does not correspond either to the needs or to the possibilities of this in India, is therefore completely comprehensible. In a country with a population of 400 million, having one-quarter of the world resources of iron ore, little more than one-and-a-half million tons of steel is smelted each year. In consumption of the ferrous metals per head of population, India is one of the most backward countries in the world.

Solution of this exceedingly acute contradiction in the Indian economy will be aided by the erection, in collaboration with the Soviet Union, of an iron and steel plant at Bhilai. The construction of this plant is being pursued in the State of Madhya Pradesh, which is rich in mineral resources. This state is in the central portion of the Hindustan Peninsula, in a sandy plain where summer temperatures attain 50° centigrade. The Indian journal, *Capital*, describing the scope of this project, wrote in February 1957 that twelve institutes in the USSR participated in the design of this plant, and that the total volume of the construction work is expressed by grandiose figures: 100,000 cubic meters of brick are to be laid; 550,000 cubic meters of concrete and reinforced concrete structures are to be erected; 100,000 tons of metal fabrication is to be assembled; 103 kilometers of railway line is to be laid. Soviet enterprises are delivering 400,000 tons of various types of equipment, fabricated metal, and material for the plant at Bhilai. Among the enterprises delivering supplies, this magazine listed the Ural and Irkutsk Heavy Machinery Plants, and enterprises in Leningrad, Dnepropetrovsk and Sumy. It is not difficult to imagine the overall complexity of the erection of this very large industrial enterprise if one considers merely the problem of the delivery of the freight to the construction site in a country of such vast territory as India, where the railways are terribly overloaded, the ports are inadequate, remote, also overloaded, etc.

The Bhilai plant is being erected on the basis of the latest achievements of construction and metallurgical assembly techniques. It is proposed to build three blast furnaces and six open hearth furnaces, four rolling mills, and a coke department, consisting of three batteries of 65 ovens each. The initial annual capacity of the plant will be a million tons of steel, and it will later be brought to 1,300,000 tons. The plan envisages the possibility of an increase in the annual capacity of the plant to two-and-a-half million tons in the future. The enterprise will make use of the coke production residues for the manufacture of a long list of chemical products: ammonium sulfate, benzene, toluene, xylol, phenol, and industrial lubricants. All these, and other technical and economical features of the steel mill under construction, as well as the nearness of its supply of iron ore, make for a lower cost of the metal to be produced by the Bhilai plant than that now being produced in the country.

Indian public opinion is displaying a great interest in the construction of the plant at Bhilai. In December 1957, the first Indian-Soviet construction project was visited by Prime Minister Jawaharlal Nehru. In the book of distinguished visitors, he entered the following inscription:

"It is not easy to express my impressions of my visit, as Bhilai is one of the places that is imprinted in the national consciousness as an important symbol of a new epoch in India. One unconsciously senses this long before arriving at Bhilai. The impression from the visit, and personal acquaintance with the persons conducting its many-faceted activity was a deep one. And that which was once a dream is coming to take on shape, and to become the reality and symbol of the India of the future."

The government steel mill in Bhilai is the first enterprise in the complex of new industrial structures to be built by India in collaboration with the Soviet Union and other lands of socialism. An agreement on the erection of five other new large industrial projects in this complex was concluded between India and the USSR in November 1957. In connection with this agreement, it is proposed to build a heavy machinery plant in the Damodar Valley (Bihar State), calculated for an annual production first of 45,000 tons, then of 80,000 tons of output (equipment for coke ovens and blast furnaces for ore crushing, for steel smelting furnaces, for rolling mills, cranes, etc.). The erection of this heavy machinery plant will also make it possible to proceed with the construction in India of cement, sugar, and other enterprises to be equipped by machinery made in that country. Even the organ of the monopoly circles in India, *The Eastern Economist*, November 22, 1957, was compelled to recognize that the heavy industry plant in Bihar, "is a contribution to India's progress toward industrialization," and will create "a solid base for industrialization of India."

Under the Soviet-Indian agreement, a plant for manufacturing mining equipment with a total of 30,000 tons output capacity a year; an optical glass plant, producing 250 tons per year; a fuel powered electric power plant of 250,000 kilowatts capacity using the lignites of the Neiveli deposit (Madras State); and coal mines and a coal dressing factory in the vicinity of Korba (Bihar State) to produce four million tons of coal per year, are also to be built.

The Indian press, commenting on the Soviet-Indian agreement on the construction in India of a complex of industrial projects, emphasizes that the creation of all these new enterprises makes it possible for India to produce equipment necessary for the development of the major branches of the country's industry for the first time in its history.

A serious role in the upsurge of the Indian economy

will be played also by the castings and forgings plants to be built in India in collaboration with Czechoslovakia. This enterprise will be in the area of the heavy machinery plant to be built, and will, for the most part, provide this plant with castings and forgings. According to the Indian press, the casting and forging plant will produce forgings of up to one hundred tons weight. Acceleration of the industrial development of India will also be facilitated by the delivery thereto of complete sets of equipment for electric power plants, cement, and sugar factories from Czechoslovakia; for factories to produce electrical cables from Hungary; and for enterprises to produce machine tools, railway rolling stock, and sugar from Poland. In collaboration with the German Democratic Republic, an electrical computer plant, a factory for the production of stearic acid, a plant for the production of viscose, and a motion picture plant will be built in India.

The countries of the socialist camp are not only collaborating in the erection of industrial projects in India, but are assisting in the development of its resources of minerals and raw materials, which are of such enormous importance for India. A peculiarity of the economic position of India lies in the fact that its potential in mineral resources is coming to be studied and developed for all practical purposes only today. This serious problem is being resolved by India in cooperation with the socialist countries.

An exceptionally pressing problem for the Indian economy is the search for petroleum, the shortage of which is felt very sharply in this country. The USSR and Rumania, which have assigned the necessary experts and equipment, are participating in this prospecting effort. In 1957, the latest Soviet turbo-drills, calculated for drilling for depths up to 5,000 meters, were shipped to India. In the beginning of May of the present year, the Indian press reported that an exploratory well in Dzhavalamukhi in Punjab State, sunk at the given location on the advice of Soviet experts, yielded gas. The drilling was done by Rumanian experts. Not far from the city of Kambey (Bombay State), where drilling operations began in July 1958 with the participation of Soviet experts, oil was discovered. The Indian press has repeatedly expressed the view that oil refineries can and should be established in collaboration with the Soviet Union and Rumania, as the nucleus of an independent, national petroleum industry. It is proposed to undertake the construction of India's first government-owned oil refinery in collaboration with Rumania at Gaukhati in the State of Assam.

The socialist countries are aiding India not only in the way of the construction of industrial projects and the mastery of resources of raw materials, but in studying the prospects of, and in elaborating recommendations for the development in India of such important branches of industrial production as machine manufacture, chemistry, etc. It should be emphasized that, unlike the "aid" which is granted to India by imperialist countries, the lands of the socialist camp aiding India in its industrial development do not attempt to participate in the administration of the enterprises created, or in the sale of their products, distribution of the profits, etc. This clearly demonstrates the truly friendly relationship between the lands of socialism and the economically underdeveloped countries.

The countries of the socialist camp are extending considerable credits to India, which are used for the construction of industrial enterprises by these countries, and for the shipment of machinery and equipment. The total sum of credit extended to India by the socialist countries, chiefly by the Soviet Union, is about one-and-a-half billion

rupees. The bulk of these credits is at 2-1/2 per cent interest per year, which is just not comparable with the interest rates of up to 8 per cent for the loans and credits obtained by India from the imperialist countries. Repayment of the credits granted to India by the socialist countries is to be in equal annual portions over a long period. Thus, under the Indian-Soviet agreement, the duration of repayment of the credits for construction of the iron and steel plant of Bhilai, as well as of the other industrial structures, will be 12 years. In view of the strained financial position of India, the repayment of the credit extended in connection with the construction of these industrial enterprises is to begin a year after all the equipment has been delivered. In addition, the Soviet side has agreed, if necessary, to increase the total credit. The journal, *The Eastern Economist*, analyzing this agreement, which is without precedent in Indian economic relations with foreign countries, was compelled to state, November 22, 1957, "it would be difficult to conceive of a more favorable agreement."

The technical and economic value of the various types of industrial equipment and machines being delivered to India by the socialist countries, and of the new industries being erected in that country with their aid, will be immensely increased due to the fact that the socialist countries are sending to India engineering and technical personnel who will participate both in the planning and erection, and in the launching of these plants into operation. The industrially developed countries of the socialist camp will transmit their technical and economic experience to the Indian people by organizing the training and on-the-job practice of Indian engineers and technicians in their higher educational institutions, scientific research institutes and laboratories, and at the large industrial enterprises of these countries. The new industrial construction being pursued in India in collaboration with the countries of the socialist camp will become a veritable school of training of Indian cadres, of Indian skilled workers, of the industrial trades; and a school of practice for Indian engineers and technicians. In supporting the striving of the Indian people to overcome its technical backwardness, and with due consideration of the acute shortage of experts in the industrial fields in India, the countries of the socialist camp are cooperating in the solution of this problem—so vital to India. At the present time, a government program for the creation of four regional, technical institutes to serve the country as a whole, is being carried out. Important among these is an institute of technology near the city of Bombay. This institute has been planned with the participation of Soviet experts. The equipment for the classrooms, laboratories, and auditoriums of this institute is being delivered by the Soviet Union out of its contribution to the UN Technical Assistance Fund. A group of Soviet experts has been sent to India, and it participated in the development of a program of scientific and educational activity in the institute being established. The Bombay Institute of Technology will train specialists in construction mechanics, metallurgy, road, highway, and railway construction, radio engineering, geology, and the peaceful uses of atomic energy. According to the Indian press:

"The Bombay Institute will be capable of making good a considerable proportion of the shortage in technical personnel." (8)

The training of Indian youth in the higher educational institutions of the socialist countries, particularly in the industrial specialties, is becoming of ever increasing importance. Thus, this year Czechoslovakia has granted 26 scholarships for the training of Indian students and post-graduate students in its higher educational institu-

tions, including 23 scholarships for the training of specialists in various branches of industry. The German Democratic Republic has allocated 50 scholarships to India for the training of Indian citizens in its universities and institutes in the machinery manufacturing specialties, in civil engineering, electrical engineering, metallurgy, chemical machinery manufacture, mining, geophysics, and applied mathematics. In the Soviet Union, citizens of India are able to specialize in the fields of chemistry, geology, machinery manufacture, metallurgy, mining, civil engineering, applied mechanics, etc. The connections between the scientists and specialists in India, and those in the socialist countries, are becoming stronger. This is borne witness to by the trips in both directions of delegations of scientists and experts, and the visits of such persons at scientific institutions and industrial enterprises. Scientific works and journals published in the USSR and other countries of the socialist camp are encountered with increasing frequency in the libraries of India. A mutual exchange of scientific publications is expanding.

The all-round collaboration of India and the countries of the socialist camp not only facilitates the overcoming of its technical and economic backwardness, but strengthens the position of the Indian Republic in its relations with the capitalist countries. We may also note such facts as the agreement of English capital to participate in the erection of a steel works at Durgapur, and a heavy power equipment plant in Bhopal; as well as the significant improvement in the terms of the agreement of West German firms on the construction of a steel mill at Rourkela, the shipment to India of equipment on long-term payment agreement by certain capitalist countries, etc.

An examination of the major trends in economic, and scientific and engineering cooperation between India and the countries of the socialist camp, shows that only on the basis of relationships of equal rights and mutual profit is it possible to establish fruitful international collaboration, directed toward assuring social progress, improving the wellbeing of the peoples, and reinforcing peace throughout the world. The broadest strata of the Indian people have a vital interest in the development of this collaboration.

The overcoming of the technical and economic backwardness of the country, and the creation of the necessary material conditions for the development of industrialization and the upsurge of the economy as a whole, are the indubitable and tangible results of the friendly collaboration of the young Indian Republic with the countries of the socialist camp.

FOOTNOTES

- (1) *India's Trade Agreements with Other Countries*, Ministry of Commerce and Industry, Government of India, New Delhi, 1957.
- (2) Table compiled on the basis of Indian customs data.
- (3) The fiscal year in India begins April 1 and ends March 31.
- (4) *India's Trade Agreements with Other Countries*, Ministry of Commerce, Govt. of India, New Delhi, 1957.
- (5) "A.I.C.C. Economic Review," 1, VI, 1957, p. 23.
- (6) "Indian Express," Feb. 21, 1958.
- (7) *Programs of Industrial Development, 1956-1961*, Govt. of India Planning Commission, Delhi, 1956, pp. VI, VII.
- (8) "Bombay Chronicle," January 20, 1958.

I. Blyumin and V. Shlyapentokh:

The Econometric Trend in Bourgeois Political Economy

In the past decade, a trend titled "Econometrics" has become very widespread in the economic literature of the capitalist countries. This trend is given virtually universal support by bourgeois economists, and it is only rarely that one encounters in the literature expressions directed against econometrics.

The bourgeois economists invariably assert that, with the appearance of econometrics, the science of economics has, as it were, entered a new stage of development, and one that permits it to be listed among the exact sciences.

In making this high estimation of econometrics, the capitalist economists assert that economic science in the West has finally emerged from its critical situation. The "achievements" of econometrics are counterposed to Marxist political economy as a proof of the falsity of the thesis of the rotting away of the bourgeois political economy, and as a most powerful argument in favor of its alleged capability for further creative development.

We will not cite the statements of typical representatives of econometrics from which, in point of fact, one can expect nothing but apologetics. Let us see how econometrics are evaluated by economists who are not direct proponents of this trend. Thus, J. Akerman asserts most confidently that econometrics is among the most productive trends in modern economic science.⁽¹⁾

The same opinion is adhered to by the French bourgeois scientist Granger, the author of a special monograph devoted to methodological problems of modern political economy. He holds that the progress of economic science is expressed primarily in works of econometric character, and that the development and the appearance of econometrics is a manifestation of the "maturity" of economic science.⁽²⁾

Another Frenchman, Andre Marchal, presents a most ecstatic evaluation of econometrics. In its appearance he sees:

"One of the characteristics of modern thought...one of the most striking events in the development of economic thought of the last twenty years."⁽³⁾

He predicts a great and creative future for it. The bourgeois economists ascribe nothing less than a messianic role to econometrics. These evaluations do not correspond to reality.

Before proceeding to the analysis of this economic tendency, it is important to make one preliminary remark. It is impossible to regard econometrics as a unified trend presenting a single conception of the most important methodological and theoretical questions. The economic trend includes a confused and varied group of bourgeois economists and statisticians, whose subjects of investigation and theoretical conclusions vary very greatly. It is a formal symbol that unites the econometricians. This is evident from the usual definitions of econometrics.

At the outset, econometrics was understood to be "an investigation of the magnitudes and significance of economic values, and a determination of the economic relationships between them, based on statistical data." At present, bourgeois economists present a broader interpretation of this term, including in econometrics "the totality of the employ-

ment of mathematics in the science of economics."⁽⁴⁾

In bourgeois economic literature, economics is regarded as a branch of science in which, for purposes of analysis of economic phenomena, economic theory, mathematics, and statistics are combined. This is approximately the definition of economics given by J. Tinbergen, Charles Roos, G. Tintnr, R. Frisch, H. Davis, and many others. A somewhat different definition of economics is given by L. Klein. He sees in economics a totality of methods of analysis based on probability calculations.

The development of econometrics as a special trend in bourgeois economic science was induced by the following factors. An important role therein was played by the practical needs of the monopolies and the bourgeois governments, for example, in developing more effective forms of organization of production and methods of capitalist exploitation. In addition, the development of econometrics was called forth by the need for new methods of apology for capitalism. After all, at the present state of development of capitalism, it is necessary to distract the attention of the working people from investigation of the relationships of production which represent the most important content of the science of economics, and to concentrate it on quantitative relationships in economic phenomena.

Economic works are most varied in their themes. The works of the econometricians is divided into two types: The first are econometric investigations dealing with general political and economic problems, the economic cycle, the distribution and utilization of the national income, etc. Among these it is necessary to classify in a special category those problems which deal with more specialized questions of an economic and statistical nature. These works are devoted to measuring the interrelationships among certain economic phenomena (price and demand, income and structure demand, etc.). Many such investigations are of practical value for the economic policies of the capitalist governments. Investigations of this type differ in the methodological sense from works which attempt to resolve general economic problems.

The second category includes econometric works in which mathematical and statistical methods are used to analyze questions of the organization of production, the planning of the functioning of enterprises, marketing, etc.

Econometrics, from the viewpoint of the method of investigation, constitutes a most heterogeneous trend. While certain works belong in their themes to the sphere of political economy, others have to be classified not as investigations in political economy, but analysis of the economics and organization of the production of the various branches of the national economy and the individual enterprises. The unity of the works appearing in the field of econometrics may be spoken of only in the sense that mathematics plays a role in all of them. There is no unity among econometricists on matters of theory. This may be illustrated, by way of example, in their attitude toward Keynesianism. There are direct proponents of Keynesianism, such as A. Hansen, L. Klein (S), and A. Lerner, among the Econometric Society, as well as economists who make partial use of Keynes's methods

but do not share his positions completely, such as G. Haberler. Also a member of the Econometric Society is J. Schumpeter, an economist who has considerably more in common with the basic conceptions of Keynes than has Haberler. Finally, the members of the Society include defenders of free competition, and proponents of the theory of Keynes (F. Hayek, M. Allais, and others).

What is it that unifies these very widely differing representatives of bourgeois economic science? What is the essential symbol of this particular econometric trend? The characteristic of the various econometric works is the extensive application of mathematics, both in theoretical analysis, and in the analysis of factual statistical material. While the econometricians emphasize the significance of economic theory and statistics, nevertheless they see in mathematics, the main tool of investigation, and often regard economic theory and statistics as subordinate components relative to economics. The development of econometrics today is proceeding largely along the lines of the development and application of various mathematical methods for the study of economic phenomena. In this connection, there has begun an elision of the boundaries between econometrics and mathematical statistics and other branches of mathematics in a number of cases. At the same time, the percentage of works in which mathematics and statistics are truly coordinated, has considerably declined relative to the preceding period.⁽⁶⁾ And this is the reason for the great importance which the econometricians ascribe to mathematical training of economists.⁽⁷⁾

Marxist political economy has never negated the possibility and the importance of employing mathematics and statistics in studying economic phenomena. It is sufficient to refer to the role played by the mathematical method in the work of the founders of Marxism. Marx made extensive use of higher mathematics in his investigations, and even made a number of interesting discoveries in this field. In *Capital*, the mathematical method played an important role in solving the problems of reproduction, in establishing the tendency of the rate of profit to decline, and revealing the essence of prices of production, etc.⁽⁸⁾

Marx made extensive utilization of the mathematical method in economic investigations, as is testified to by his letter to Engels, May 31, 1873.

The application of mathematics to economic investigations can be successful only if founded on a profound theoretical analysis of the nature of the relationships being studied. The science of economics is no exception in this regard. Thus, the utilization of mathematics in the natural sciences is also impossible without prior qualitative analysis. In economic science, the employment of the mathematical method encounters additional difficulties arising out of the nature of social and economic phenomena.

Marxist-Leninist science does not at all negate the significance of the employment of the mathematical and statistical apparatus, but it decisively rejects the theoretical foundation and apologetic confusions of the majority of the representatives of econometrics.

Bourgeois economists belonging to the econometric tendency base themselves on theories that consist of the general dogmas of vulgar political economy.

Many significant econometricians themselves have repeatedly emphasized that econometrics is based on the "traditional" economic theory, and that it does not pretend to have created new theory. So important a representative of econometrics as Ragnar Frisch (who was the first to use the very term "econometrics") despite his efforts to demonstrate the triumphs of econometrics, was compelled to recognize that conservatism in theory was dominant among

econometricians.⁽⁹⁾ This, in the words of Frish, gives rise to the danger that econometrics will become an "obsolescent branch of economic science."

The most important role in the theoretical apparatus of the econometricians is played by the theory of the Austrian subjective school of marginal utility in its various varieties; a number of other propositions of vulgar political economy (the theory of supply and demand, the theory of production costs, etc.); and various modern bourgeois theories of the economic cycle.

For example, one of the most important places in the theoretical arsenal of econometricians is that of the so-called theory of "imposition", in accordance with which the distribution of the national income is determined by the share of the participation of various factors of production (labor power), in the increase in production (use value and cost of production being confused thereby). Changes in the magnitude in various factors in production are examined in isolation from each other. Thus for example, it is assumed that the number of workers changes, while the productive apparatus does not change in value. As a result, a very artificial scheme is developed in the spirit of the theory of marginal productivity. This theory has come into wide favor in bourgeois economic literature, particularly in the works of J. B. Clark. It plays an important role in the work of the econometricians of today; Douglas, Klein, Tinbergen, and others. This theory is a variant in form of Say's vulgar theory of the three factors of production that was long since exposed by Marx.

The erroneousness of the econometric theoretical works is particularly clear in the efforts to provide a general description of capitalist economics. These efforts are usually related to the construction of so-called "econometric models," which are isolated from reality. The methods of erecting such models, used by modern econometrics, came into being under the influence of various sources. In the first place, we note the influence of L. Walras, a Swiss economist who first proposed to represent the national economy by a system of equations. In the second place, it is necessary to direct attention to the work of S. Kuznets and other economists in "national economic accounting." The overall indices, such as national income and others obtained by their methods, have been used as the foundation for the econometric models. In the third place, there are the theories of macro-economics of Keynes, Kahn, and others, in which decisive significance is ascribed to the relation among over-all indices (national income, consumption, investment, etc.)

In its general form the "econometric model" is a system erected upon a definite number of equations. Each equation describes one or another phenomenon or characteristic of economics. The equations contain variables and parameters or constant magnitudes.

Various classifications of variables are employed in econometrics. Thus it has come to be accepted to divide the variables into exogenic and endogenic. The exogenic variables include all those having to do with political factors, with the activity of the government (taxes, budget, etc.), and also with natural factors. The endogenic variables characterize purely economic phenomena. This division exercises, as will be shown below, a decisive effect upon the entire further process of construction of "econometric models."

During the past 15 years, a number of econometric models have appeared in the literature of the capitalist countries. The initiator in this field is regarded as the Dutch bourgeois economist, J. Tinbergen, who in his works (primarily his book entitled "A Statistical Verification of The

ries of Economic Cycles") developed the first variant of economic models even before the war. Subsequent to the economic models of Tinbergen, there appear those of M. Kalecki, Colin Clark, R. Harrod, L. Klein, E. Domar, P. Samuelson, D. Hicks, A. Smizi, K. Christ, and others.

In developing their models, the econometricians posed two problems: The first of them is theoretical in nature, and relates to a study of the causes giving rise to "economic fluctuations." The second is practical in nature and relates to economic prognosis. The effort to employ models for purposes of prediction has gained considerably in strength in recent years.

The "method of models" used by econometricians, or in other words, the method of compilation of schema expressing the fundamental relationships between the most important magnitudes is in itself no cause for opposition. The fact is that this method has long since been used in Marxist-Leninist economic science. Marx's schemes of simple and expanded reproduction, Lenin's scheme of expanded reproduction under conditions of increase in the organic composition of capital, are brilliant examples of scientific diagramming of the economic process in order to determine its fundamental regularities.

Marxist-Leninist political economy by no means negates the importance of quantitative study of the relationship between such economic phenomena as investment and employment, the size of the national income, and mass consumption. There can be no doubt that the relationship between the dynamics of the volume of production, investments, and mass consumption, as they may relate to the source of cyclical development, are worthy of the attention of investigators. Thus, the efforts of the econometricians to study the problems of the economic cycle with the aid of the "method of models" cannot give rise to any opposition on principle.

However, and this must be stated with emphasis and without qualification, bourgeois econometrics has not succeeded, as the past two decades have shown, in achieving results of any kind in the field of study of the economic cycle. The causes for these failures on the part of the bourgeois economists lie not in the very concept of models, but in the theoretical foundation on which they base themselves in erecting their econometric models.

In the volume, *Economic Fluctuations*, published in the middle 50's, in which a survey of all the "achievements" of bourgeois political economy on problems of the business cycle is presented, including that of econometrics, it is recognized that the causes of the cycle remain unknown as had previously been the case.⁽¹⁰⁾ The same thing is stated by the American economist, R. Gordon, in evaluating econometric models.⁽¹¹⁾

A diagram or model of an economic process is capable of reflecting reality only if it is based on a truly scientific theory, Marxist-Leninist political economy, and rests upon the dialectical method of investigation. Bourgeois econometrics, however, are founded on their various theories of cycles which as a whole present a false picture of the real causes of the cyclical development of the capitalist economy. The erroneousness of their theoretical views is evident at all levels of the erection of econometric models, and interpretation of the results of same.

In their econometric works, bourgeois economists advance the most various factors to explain cyclical fluctuations: "Technological, psychological, meteorological, even astronomical (for example, the ridiculous effort of the American economist, J. Moore, to demonstrate by means of harmonic analysis that crises are related to the motion of the planet Venus)." There is also an analysis of cyclical fluctuations as an inevitable consequence of the total various accidental

factors. It should be noted that despite their great variety, all econometric models have one characteristic in common. They cheerfully avoid the fundamental question of the antagonistic contradictions of capitalist economics which lie at the basis of the capitalist cycle, particularly at the stage of the general crisis of capitalism.

The erroneousness of bourgeois econometric models is evident in the very first place, in examining the question of the particular production relations and economic relationships that require inclusion in an econometric model. It is quite evident that this question is of decisive importance for successful application of the mathematical method, to economic investigation in general, and construction of models in particular. It is also clear that the selection of the variables⁽¹²⁾, and the determination of which of them are in direct relationship with each other, are governed by concepts outside the bounds of mathematics; to wit, by theoretical economic analysis. Theoretical analysis, and it alone, makes it possible to determine among which phenomena relationships do exist. Mathematics can serve only to measure (with greater or lesser accuracy) the degree of this relationship.

However, the erroneousness of the initial theoretical positions of the capitalist economists leads to the fact that they, concentrating their attention on derivative phenomena of capitalist reality, not infrequently secondary, and sometimes even fictitious relationships, ignore the economic relationships of production which play a decisive role in the study of various economic factors.

Let us turn, for example, to the model created by Klein. He adduces an equation describing the conditions of formations of investments in accordance with which the volume of investments is in a specific relationship to the level of profits. However, it is generally known that with profits at approximately a single level, it is possible to have different volumes of investment. The causes for this must be sought for, in accordance with the Marxist-Leninist theory of political economy, in the laws of capital reproduction, and in the existence of a fundamental contradiction of capitalism and the contradictions between production and consumption derivative therefrom; while he completely avoids these factors in his equation. Equally useless in explaining economic processes is Klein's equation, the function of which is to explain the formation of demand for labor power. It is sufficient to point out that this equation completely ignores so primary a factor as the increase in the organic composition of capital. As a result, it is again possible only to calculate highly dubious coefficients for the relationship between the wage fund and the volume of production, or the "net national product." Such an equation is incapable of revealing the true causes on which the demand for labor power depends.

The insubstantial nature of the econometricians' theoretical apparatus, and the metaphysical approach and anti-historical concepts that are native to them, also manifest themselves in the main question they have studied; the question of the causes of cyclical fluctuations under conditions of capitalism.

In constructing their models, the econometricians attempt to seek a cause capable of throwing the entire system out of equilibrium and of fixing this cause in their models. They relate it directly to impetus of the action of external exogenous factors (usually political, technical, or meteorological in nature). By the essence of things, bourgeois econometricians shrink from an economic theory of cycles, and suggest instead of it various hypotheses of a political and sociological origin. In the foreground they place exogenous variables (government expenditures, taxes, increase in population, development of science and technology, meteorological

factors). Proceeding from such an outlook, certain econometricians plot their models and attempt to make prognoses on the bases thereof. The econometricians destroy the relationship between politics and economics in the capitalist state, and declare exogenous factors to be independent; while the exogenous factors are dependent variables.(13) In their view, economic relationships not only do not determine the policies of the bourgeois state, but contrariwise the economic relationships themselves come into being under the influence of "government decisions." It is quite obvious that it is impossible to discover the essence of the economic cycle from this as one's starting point.

This type of theoretical concept plays a very important role in certain of Tinbergen's models. Thus in constructing a model of the capitalist economy of Holland, he proceeds from the concept that the mechanism of this model depends upon the value of "political parameters," which he places in front of three exogenous variables which, in Tinbergen's opinion, are governmental expenditures, wages, and the price index. It is curious that even the category "wages" is regarded by Tinbergen as an exogenous factor. He interprets wages as the result of a "strategic game" among three forces: the entrepreneurs, the workers, and the government.

In the last analysis, Tinbergen, in constructing his econometric model for the economy of Holland, finds that its development is determined by the result of this "strategic game."(14) This entire conception is founded on a complete negation of the action of objective economic laws.

The erroneousness of the methodology lying at the basis of econometric models appears with complete clarity in the treatment of the question of endogenous and exogenous variables. Econometrics offers a very arbitrary analysis of these concepts. By way of example, one may adduce Klein's treatment of this question. He holds that the length of the working day, and of the work week, the number of man hours, and other components which determine the number of hours during which a worker works in a year, are factors independent of the totality of phenomena which Klein classifies as "endogenous variables." According to Klein, it appears that the duration of the work week is not dependent either upon the volume of investments or upon the volume of production, or upon the number of workers, or upon the level of wages and other economic factors; but is determined solely on extra economic factors, legislation and so forth. Such a viewpoint contradicts the obvious facts of economics. Is it necessary to prove that the length of the work week varies significantly during different phases of the economic cycle, under the influence of the level of industrial production, relationship between the active and reserve armies of the working class, etc.?

The statistical data for the United States, which served Klein as the basis for erecting his econometric model, and in particular data on the numbers of the partially unemployed, clearly demonstrate the exceedingly intimate relationship between the "exogenous" variable under discussion and the course of the economic development of the country. Equally poorly founded is a counterposition of "endogenous" factors and the number of workers per farmer, which is highly dependent on the demand for agricultural commodities, etc.; and the index of prices for important commodities, which are influenced by the level of prices for commodities of native manufacture, etc. Even the population of the country (and here we ignore all other phenomena) cannot be examined as a factor completely independent of the economic development of the country. One can find few bourgeois economists who will decide to negate the influence of economic factors upon the death rate, etc. The insubstantial character of the classification of variables adopted by Klein

is clearly evident if one take the case of investments as an example. Klein and a number of other econometricians are not quite sure whether the index characterizing the level of investment is an endogenous or exogenous variable. This is why he, with his characteristic tendency to avoid solutions of theoretical problems permissive of only a single interpretation, suggests in one of his works variants of models in which investments appear in some cases as exogenous, and in others as endogenous variables.(15)

Consequently, we cannot evaluate the classification of variables elaborated by Klein, as well as those of other econometricians in any other way but as artificial and of little value for economic investigation.

The anti-historical attitude of capitalist econometric economists is particularly evident when they proceed to extrapolation. Many of them stubbornly ignore the completely indubitable fact that it is impossible to regard even the parameters that have been correctly calculated for a given period as constants for even the most immediate future. The erroneous hypothesis that the initial conditions do not change is a fault held in common by the majority of the econometric prophecies for the future.

Econometric models are not infrequently constructed on the basis of preliminary data that render the entire structure completely non-realistic. Let us cite a typical example: Neumann's model of the so-called "expanding economy" is based on the assumption that the capitalist economy develops at a uniform rate.(16) Smithey constructs his model on the assumption that prices are stable, and the share of workers and office workers in the national income undergoes no change, that the banking system is capable of making whatever loans may be necessary for various conditions, and that budgetary policy has no influence upon the distribution of national income.(17) There is no need to prove that such hypotheses are obviously unscientific in nature.

The most important shortcoming in econometric models is the unreliability of the initial statistical data used in their construction; as the data of bourgeois statistics are often falsified. Let us note to begin with that econometric models and for that matter, other econometric studies are based on the results of so-called selective observations which it is known are not infrequently made by bourgeois statisticians in direct violation of the requirements of the science of statistics (and in the first place, in the matter of choice). This is noted by the econometricians themselves. They not infrequently express dissatisfaction with the quality of the selective researches, the results of which they are compelled to employ. Thus L. Klein notes that data of budget investigations does not make it possible to provide a complete picture of micro- and macro-economics.(18)

Considerably stronger in its influence upon the quality of econometric studies (we are considering works in the field of political economy) are the fundamental shortcomings of bourgeois statistics in the field of calculation of overall, or as they are called "aggregate" indices; the national income, the total volume of production, consumption, etc., which, as has been remarked, play a most important role in econometric models. Modern bourgeois econometricians have repeatedly noted the arbitrary elements that are allowed in the works of specialists in the field of "national economic accounting." Recently many econometricians have become very pessimistic in their expressions on the statistical side of econometric models. Thus, E. Beach, the author of the latest book on models, speaks of the complete statistical inadequacy of the models of L. Klein, which are, in the view widely held in bourgeois economic circles, "the last word of econometrics in this field.(19) The same estimate of models is given by Klein and Christ. These admissions by

bourgeois econometricians are most indicative and speak for themselves.

Bourgeois econometric economists give considerable attention to the study of supply and demand. These problems were studied most intensively before the war by the American econometrician, M. Moore, and particularly by G. Schultz; and after the war by the American, J. Dusenberry, the Englishman, R. Stone, and the Frenchmen, R. Roi, B. Rouquet la Garrique, R. Cognar, the Swede, G. Wold, and others.

In studies of supply and demand, the econometricians proceed from the theoretical hypothesis of the Austrian and the mathematical schools of bourgeois political economy. In the question of price formation, they occupy theoretical positions that cannot equip them to explain the fundamental causes of the formation of commodity prices.

The theory of marginal utility is the starting point of their investigations. We know that one of the most important errors of this theory is the fact that it ignores the reality that objective laws of social demand are determined primarily by the size of the national income and its distribution among the various classes. Thus, the workers' demand is determined by the wage level. The worker is compelled to limit his demand for various products not by the fact that his need for these commodities has been satisfied, but by the fact that his purchasing power is limited. The very low level at which the overwhelming majority of the population finds itself is that which determines the law of motion of social demand under capitalism.

But no matter to how great a degree the bourgeois economists ignore the effect of social factors upon the movement of socially effective demand, they are incapable of keeping silent about these factors completely. They are compelled to acknowledge the dependence of the movement of demand upon change in prices; and this opens the road to a recognition that changes in magnitude of income also influences demand. To the degree that the works of the econometricians deal with the study of the relationship between demand and fluctuation of prices and the dynamics of income, they are of a definite level of interest.

In a number of econometric works, presentation is made of the results of investigations which, although they do not reveal the true mechanism of formation of prices in the capitalist economy, are capable nonetheless upon critical examination, of assisting in discovering the causes giving rise to the fluctuations of price around value. After all, Marxist-Leninist political economy never discarded the law of supply and demand, and always emphasized its influence upon the determination of the specific level of market prices. Therefore, in studying the economics of the capitalist countries, utilization may be made of the number of specific calculations relating to determination of the coefficient of elasticity and establishing a specific relationship between the motion of prices and the effective demand for given commodities. H. Schultz has derived the following coefficients of elasticity of demand for specific agricultural products in the United States for the period from 1875-1929: wheat, 0.20%; sugar, 0.29; pork, 0.70; beef, 0.86%.⁽²⁰⁾ These data show that the demand for various commodities reacts differently to changes in prices. If the price of wheat rises by 100%, the demand per head of population drops by only 20%; but the demand for beef under similar circumstances will show a much greater drop — 86%. These figures confirm the fact that the demand for high quality commodities — meat and others — is highly unstable in the United States.

The increase in prices for such foodstuffs as meat and fruits leads to a reduction in the consumption in these types of foods by the working people. Consequently, the structure of the diet of the basic masses of the population of the cap-

italist countries (in this case the United States) is unstable and subject to substantial fluctuations.⁽²¹⁾ Marxists have also never denied that changes in the prices of individual commodities may, under given specific conditions, result in a definite level of fluctuation in the prices of certain other commodities, and in particular those which are capable of serving as substitutes for the former. It is sufficient to note the attention given by Marxist investigators of the capitalist economy to the so-called struggle for the "consumer dollar," which presupposes the possibility of substituting one commodity for another. Therefore, in critical examination it is not without interest to consider the calculations of certain econometricians who have shown the relationships between the demand for various mutually interchangeable commodities (gas and electric power, railway and automotive transportation, etc.).

H. Schultz, for example, has analyzed the interrelations between the demand for such commodities as beef, pork, and mutton. According to his calculation, we find that the coefficient of elasticity for the demand for beef is 0.10 in terms of the price of pork; and is 0.20 in terms of the price of mutton.⁽²²⁾ This means that a 1% increase in the price of pork causes approximately an 0.10% increase in the demand for beef, while an equal increase in the price for mutton causes an 0.20% increase in the demand for beef. A positive aspect of certain investigations by the econometricians is the fact that they do not confine themselves to determining the general relationships between demand and prices, but attempt on the basis thereof to calculate statistical data for the qualitative relationships between the various categories. At the same time, it should be noted that the econometricians have a tendency to overestimate the significance of their formulas, and to regard them as laws which have a general and universal character. However, the results of the econometricians' calculations are valid only for specific and highly limited economic phenomena, and for short periods of time. Nevertheless, the econometricians' calculations (for example, the coefficients of elasticity) are of a definite level of significance inasmuch as they offer a concept of the order of magnitude of numbers expressing the relationships between variations in demand and in prices.

In evaluating the works of modern bourgeois econometric economists, it is necessary to take into consideration the difference in the significance of their theoretical and their applied works. The econometric evaluations undertaking to solve general problems of political economy rest essentially upon the hypotheses of vulgar bourgeois political economy with all the consequences that flow therefrom. Their works of an applied nature rest upon propositions which, not infrequently do, to some limited degree, reflect the practice of the capitalist economy, and in a number of cases, make it possible more or less accurately to orient oneself in certain phenomena of the capitalist economy.

Among econometric works of this type, two groups are of the greatest significance. One, the compilation of balances in accordance with the method of W. Leontief, a professor at Harvard University; and two, the investigations based on "linear programming." Let us deal quite briefly with these works. Leontief's method, or "input-output analysis" is designed to study the production economic relationships among various branches of the economy. This method rests upon a table of entries in vertical and horizontal columns, in the input side of which the branches of the national economy appear as producers of products and in the output side of which they appear as consumers of products.

Leontief proceeds from the fact that at a given level of technical development, there is a specific relationship between various productive expenditures and the volume of

the product of the given branch of production. This relationship is characterized by what is termed "technical coefficients." It is the calculation of these coefficients that are the main content of his work:

If capital X_i designates the volume of annual production in a branch of industry, and X_{ik} represents the portion of the volume of product produced by branch of industry, i , and consumed by branch of industry, k ; the technical coefficient will be $a_{ik} = x_{ik} / x_k$, where k is the branch of industry consuming the given type of product, and i is the branch producing this type of product. W. Leontief finds similar coefficients for all branches of the economy.

In addition to these coefficients, the index of "final demands" which is equal to the volume of the products manufactured minus the portion expended in replacing the means of production, plays an important role in Leontief's works. "Final demand" is that portion of the product which goes to consumption, investment, and export.

Under given production relationships which are characterized by technical coefficients, there is a specific relationship between the "ultimate demand" (which according to Leontief is not related to technical progress) and the total volume of product.

Proceeding from these considerations, Leontief erects a system of equations. Each of the equations has the purpose of describing the volume of production relative to the "final demand." The technical coefficients in these equations serve as parameters. Basing himself on this system of equations, Leontief employs matrices to carry the calculations with the object of determining the consequences of variations in the structural relationships among the various branches. These calculations are the ultimate objective of Leontief's work. In his book, *An Investigation of the Structure of the American Economy*, Leontief calculated what the volume of the production of all the branches of the economy would have had to be; and what the expenditures of labor would have had to be to satisfy the "ultimate demand" in 1939, (that is, at the volume of production which was employed in 1939 for capital construction, consumption, and export), proceeding in this calculation from the technical coefficients of 1929. In addition he calculated the effect of changes in the structure of productive consumption in the power, light, and heavy branches of industry upon the volume of production in all branches of the national economy.

Leontief's method and his technical coefficients are of considerable interest from the viewpoint of methods of study of relationships within the national economy.

One must say that Western economic literature exaggerates the originality of this method. The calculations advanced by the author are merely efforts to apply the method of balances to investigation of the American economy.

It is well known that the balance method was founded and elaborated by Soviet economists. Soviet economic science not only created and is developing further the theory of the national economic balance, but has now for more than forty years made practical employment of the balance method in the planned guidance of the national economy of the country.

The relationship between Leontief's method and the balance method used by Soviet economists is recognized even by certain bourgeois economists (for example Mendes-France and Ardennes). Nevertheless, in Leontief's book we find not a single reference to the work of the Soviet economists in the field of the balance method.

Leontief's system of equations may be employed as an auxiliary method in a planned economy for a more complete and profound utilization of the method of material balances. However, utilization of Leontief's method requires a critical approach and substantial modifications. Investigations

by Leontief's method contain serious mistakes arising out of the fact that his work is based on the "theory of equilibrium" of L. Walras. It is enough to note that Leontief does not draw a distinction in principle between the branches of material production and spheres such as commerce, the government apparatus, and work performed in the home. He actually confuses wages and capitalist profits, and operates with a classless "home economy" as a source of "labor services" of all types, and as an "abstract consumer of goods." In his calculations, Leontief proceeds from the presupposition that the total production during a given period is consumed entirely within that period. Or, in other words, he ignores gluts on the market involved in capitalist economic crises of overproduction. He always assumes the presence of a stable equilibrium, and thus presents a distorted picture of capitalist production. Leontief does not consider so significant a fact as the sharp fluctuations in prices of raw products and materials. He holds that the products produced by each branch of industry are homogeneous. In his tables, byproducts are not differentiated from the given branches of industry. However, there are various fields in which byproducts play a very important role.

In addition to all the foregoing, an adequate amount of reliable statistical data for the construction of properly founded balance calculations are, as we have previously noted, lacking in the capitalist countries. (23)

The methods of determining the degree of economy in labor obtained as a result of technical progress, the classification of the branches of the national economy, etc., call for serious objections.

Leontief's method does not directly deal with those problems of political economy around which an acute ideological struggle is under way. Of course, the general theoretical and methodological positions of capitalist political economy have a definite influence upon his work. It is this influence that predetermines the errors in his method that were referred to above. Leontief's investigations are directed to the solution not of theoretical but of applied problems of bourgeois economics.

A second group of works by bourgeois economists, based on the method of "linear programming," plays a significant role in econometrics. This method is used to an even lesser degree than the input-output method to examine theoretical problems of political economy.

By "linear programming" is meant the compilation of economic programs based on available resources, existing prices, and the production of optimum results. (Under the conditions of capitalism what is meant is primarily the highest possible profit.) For example, in the simplest case of transportation of production, points of shipment are indicated with the commodities present there, points of destination with the quantity of commodities that have to be delivered to these points, and the routes along which the shipments are to be made are indicated. It is necessary to organize the shipment in such manner that the total volume in ton-kilometers will be the lowest possible. The term "linear programming" for such problems was introduced by the American economist, J. Danzig, who in 1919 published a work titled "Maximization of the Linear Form Where Variables are Subordinated to a System of Linear Inequalities."

Linear programming is used by the econometricians to attempt to solve concrete problems of organization of the economy. (24)

Fundamentally these are problems of the most desirable assortment of production and the most profitable distribution of production (among enterprises, branches of industry, machine tools, and workers) at given prices. The fundamental condition is the derivation of maximum profit.

A method of "linear programming" is thus a purely applied method. It is beginning to find wide application in the practical activities of various companies, farmers, and so forth. In order to convince oneself of this it is sufficient to examine the *Journal of Farm Economics*, the *Journal of Industrial Economics*, and other publications on questions of applied economics. The most significant specialists in this field are Dorfman, Danzig, Koopman, and others.

As we have already observed, bourgeois econometrics cannot be regarded as a homogeneous phenomenon. It is necessary to differentiate econometric works of a political economic character and econometric works of an applied nature. An evaluation of these two varieties of econometric works leads to different conclusions. The works of econometricians in the field of political economy, although they contain a number of useful conclusions of a mathematical and statistical character, as a whole have contributed no new discoveries to science. The econometric works of this type have not been of value in solving any important theoretical problem. They are used to "reinforce" the apologetic formulations of bourgeois political economy, and to give them the appearance of science. This applies, above all, to the problem of the capitalist economic cycle. Thus, assertions to the effect that econometrics has opened a new stage in political economy are lacking in any foundation whatever.

We have to regard in another light the works of the other category, many of which deal not with problems of political economy but with problems of technical economics. These works have, to a certain degree, advanced the method of technical economic calculations based on higher mathematics. Certain of the successes achieved by econometric works of the second category have created the impression that bourgeois economists of the econometric school have contributed a significant "contribution" to the science of economics. In reality the theoretical thought of bourgeois economists is, as was previously the case, in a blind alley. This cannot be hidden by references to works having no direct relationship to political economy.

The fact that bourgeois econometrics is capable of only limited application, and then only in the field of the elaboration of partial applied problems, is recognized by many bourgeois economists. "Classical political economy," writes the important French bourgeois economist, Guittou, "was inexact, unrealistic, but general and universal. Modern political economy (he is speaking of econometrics) is more exact, but partial and concrete." (25) He is supported by Divisia, who declares that econometrics concerns itself only with "minor truths." (26) Another bourgeois economist also remarks that econometrics does not embrace economics as a whole. (27)

The reorientation of econometrics is a new and convincing testimony to the depth of the decay of bourgeois political economy. Many bourgeois economists, particularly among those who have dealt in econometric works of applied types, no longer believe in the possibility of determining general laws of economic development. This is another important confirmation of the incapability of bourgeois economic science of resolving the fundamental problems of the present day.

Editor's note: The editors intend to return to elucidation of problems of econometrics and the problems of utilization of mathematical methods as an auxiliary method in the practice of economic accounting and planning, and in the investigation of economic phenomena

FOOTNOTES

- (1) J. Akerman, *Structure et Cycles Economiques*, Paris, 1955, p. 203.
- (2) G. Granger, *Methodologie Economique*, Paris, 1955, p. 295.
- (3) A. Marchal, *La Methode Scientifique et Science Economique*, Paris, 1952, p. 99.
- (4) These definitions are from the *Symposium Fluctuations Economiques*, Vol. 2, Paris, 1954, p. 317.
- (5) L. Klein is known not only for his econometric works but also for his active defense of Keynesian ideas (cf. his work *The Keynesian Revolution*, New York, 1947).
- (6) Typical in this respect are the works of P. Samuelson, with their exceedingly complex mathematical apparatus, and the absence of virtually any traces of statistics whatever. (See, for example, P. Samuelson, *The Foundation of Economic Analysis*, Harvard University Press, 1948; P. Samuelson, "Dynamic Process Analysis," in the *Symposium, Survey of Contemporary Economics*, edited by Ellis, Philadelphia, 1948). Many other works of contemporary bourgeois economists also bear a formalistic mathematical character. (See, for example, H. Leibenstein, *A Theory of Economic Demographic Development*, Princeton, 1954. The article by Eisner, *American Economic Review*, No. 1, 1956, and many others). It is curious to note that the mathematical apparatus in these works has become so complicated (quite often with no reason whatever), that it has become inaccessible not only to the majority of bourgeois economists, but even for those who consider themselves econometricians. E. Dornar, who is regarded as an outstanding representative of modern econometrics, noted in his speech at the Conference of American Economists, not without irony, that he is "related with the econometricians only by the eight dollars that he pays each year for their incomprehensible journal." (*American Economic Review*, No. 2, May 1952, p. 480). And the well-known American economist, J. M. Clark, published a paper in the econometricians' journal, in which he pleaded insistently with the mathematical economists not to convert themselves into a sect, and to employ a language comprehensible by all (see *Econometrica*, No. 2, 1947, pp. 75-76).
- (7) In this connection, the papers of the American Committee on the Mathematical Training of Scientists in the Social Sciences are of particular interest, especially with regard to the organization of the teaching process in higher educational institutions in the field of economics. This report specified the following stages in the progress of the social scientist. First he must at least understand nonmathematical statistics. Then, master mathematical statistics and be capable of reading scientific literature in social problems in which mathematics are employed. Finally, he should be able to enter into professional contact with mathematicians and study to formulate, elaborate, and analyze problems of social science with the aid of mathematics. And finally, to resolve mathematical problems arising in the social sciences. The Committee has elaborated a minimum of mathematical knowledge required by scientists working in the social sciences. (*Econometrica*, No. 1, 1956, p. 83 and elsewhere).
- (8) Even the English bourgeois economist, F. Edgeworth, had to recognize that "Karl Marx was...one of the first to employ the mathematical conceptions in political economy." (F. J. Edgeworth, *Papers Relating to Political Economy*, London, 1925, Vol. 3, p. 273).
- (9) See the speech by Ragnar Frisch, Kiel Conference of Econometricians in September 1955 (*Econometrica*, No. 3, 1956, p. 302.).
- (10) *Fluctuations Economiques*, Vol. 1, Paris, 1954, pp. 21-23.

- (11) *American Economic Review*, No. 3, May 1949, p. 47.
- (12) The number of variables used by the econometricists in their models is very great. For example, Tinbergen used 60 in one of his models, while Klein has used 40 and Kaldor, 37.
- (13) See for example, J. Marshak, "Economic Measurements for Policy and Production," *Studies in Econometric Method*, New York, 1953, p. 8; L. Klein, *Economic Fluctuations in the United States 1921-1941*, New York, 1950, p. 2.
- (14) In occupying himself with the construction of a model for the economy of Holland, Tinbergen attempted to find a path for bringing the balance of payments into equilibrium. In testing the influence of various exogenous factors, Tinbergen came to the conclusion that the best method of cutting down the consumption of the population without which, in his opinion, it is impossible to assure equilibrium, consists of devaluation of currency and increase in indirect taxes. (J. Tinbergen, *Econometrics*, New York, 1951, pp. 188-189).
- (15) *Econometrica*, No. 2, 1947.
- (16) *Econometrica*, No. 2, 1956, p. 115.
- (17) *Econometrica*, No. 1, 1957, p. 9.
- (18) L. R. Klein, *A Textbook of Econometrics*, New York, 1953, p. 69.
- (19) E. Beach, *Economic Models — An Exposition*, New York, 1957, p. 197.
- (20) H. Schultz, *The Theory and Measurement of Demand*, 2d ed., Chicago, 1957, pp. 399, 641 and elsewhere.
- (21) The coefficients of elasticity of import of various coun-

tries found by investigators of the foreign commerce of the capitalist countries also are of considerable interest. In the United States, for example, this index is 0.97, and in England, 0.28.

The elasticity of imports in the United States is several times higher than in England. Imports into the United States are reduced to the same degree as that to which, for example, employment and real incomes drop within the country. English import is considerably more stable. The difference in the degree of elasticity of import reflects the dependence of England and the United States upon import (J. Tinbergen, *Econometrics*, p. 135).

(22) H. Schultz, *Theory and Measurement of Demand*, p. 641.

(23) A critique of W. Leontief's work has been presented in Soviet literature in articles by T. Ryabushkin, "Balance Coefficients in Bourgeois Statistics," *Bulletin of Statistics*, No. 6, 1956; and S. Nikitin, "A Discussion of One Trend in Econometrics," *World Economics and International Relations*, No. 1, 1958.

(24) A method for the solution of such problems was first developed in the USSR in the 1930's by the Soviet mathematician, Professor L. V. Kantorovich. See *Mathematical Methods of Organization and Planning of Production*, Leningrad, 1939.

(25) Cited from V. Roquet la Garrique, *Les Problemes de la Correlation*, Paris, 1953, p. 14.

(26) Cited in A. Marchal, *La Methode Scientifique et Sciences Economique*, p. 248.

(27) G. Granger, *Methodologie Economique*, p. 302.

V. Manyakin and A. Silin:

Methods of Calculating the Costs of Production of Agricultural Products by the Collective Farms

The resolutions of the February and June 1958 plenums of the Central Committee of the Communist Party, "Further Development of the Collective Farm System and Reorganization of the Machine and Tractor Stations," and "Elimination of Compulsory Deliveries and Payment in Kind for the Work of the Machine and Tractor Stations and a New Procedure for, Prices of, and Conditions for Purchase of Agricultural Products," mark a new stage in the development of the collective farm system. This signifies a further development of economic relationships between the collective farms and socialist industry, an expansion of commodity circulation between town and country, and a wider utilization in collective farm production of the law of value of commodity and monetary relationships in the interests of a sharp upsurge in the collective farm economy, a raising of the level of socialization of the means of production and of labor, and a gradual uplift of the collective and collective farm form of property to the level of general public property.

An important element in the carrying out of these undertakings is the direct utilization of cost categories in the economies of the collective farms and, on that basis, the realization therein of complete cost accounting as a dependable method of economizing expenditures of social labor. The introduction of cost accounting into collective farms is unthinkable without calculation of the level of cost of production, calculation of all the elements of expenditures from which it is composed, and without a struggle to reduce these expenditures. The cost of production is one of the most important economic categories of socialist economy. Systematic reduction in the cost of production on the part of socialist enterprises means a continuing economy of both living and past labor, and consequently, a continuous increase in the productivity of social labor.

Cost is the monetary expression of a portion of the value of a product. Therefore cost cannot be examined in isolation from value. Value is a general form of expression of social expenditures upon labor (past and living) embodied in the product. And cost is expressed in the monetary form of the expenditures of enterprises in consumed means of production and in paying for the labor of the personnel. Cost summarizes all the expenditures of an enterprise having to do with production and the realization of production. The cost is affected not only by changes occurring in the given branch of production, but also by changes occurring in other branches of production.

Under the new conditions, determinations of the level of costs of collective farm products is of enormous significance to the national economy for correct distribution of cultures and branches of agriculture, specialization, and the planning of government purchases. In the near future, as the production of agricultural products increases, the government will purchase the commodity production of the collective farms to the volume necessary to supply the population with foodstuffs and industry with raw materials, and

to create reserves particularly in those districts where this will be cheaper. Realization of these measures assumes a continuous study both of the level of costs of collective farm production in various natural climatic conditions and economic zones of the country, and the possibilities of reduction of expenditures and cutting the cost of production.

Of no less significance is determination of the level of cost of production for each individual collective farm. The system of unified stable purchase prices with zonal differentiation now established, means that the difference between the purchase price and the cost of production will be the greater, the lower are the expenditures upon production in the collective farm. A reduction in expenditures will give a collective farm additional income equal to the difference between the level of the average expenditures in that zone, which represent the foundation of the new unified purchase prices, and the level of the actual expenditures of the particular farm.

Thus calculation of the cost of collective farm production is a pressing problem both from the viewpoint of the interest of the entire national economy, and from those of the interests of collective farm production, and of each individual collective farm. This presents the pressing necessity of finding methods of calculating the cost of production in the collective farms.

A discussion of the methods of calculation of costs of production in the collective farms, which has taken place in scientific meetings in the pages of *Problems of Economics* and certain other journals, as well as in specialized pamphlets, has been of a definite degree of value and has made it possible to clarify and discuss a number of important problems having to do with the utilization of cost categories in collective farm production.

In the course of the discussion, light has been shed upon the cost of production in the collective farms, and a number of problems have been posed: cost accounting in the collective farms, determination of profitability of various branches and cultures and the economy as a whole, the process of price formation for products of collective farm production, purchase prices, economies in the collective farms and the struggle to cut expenditures, improvement in the system of payment for labor in the collective farms, etc. This discussion has had a significant positive effect upon work in improving collective farm bookkeeping.

One of the most important difficulties in the calculation of the cost of collective farm production is the solution of the question of how to evaluate the work of the collective farmers in the collective farms.

The point is that due to the different level in organization of the social economy, the level of the real payment of labor has to this day been sharply different even in collective farms functioning under approximately identical economic and natural conditions. This makes it impossible to compare the cost of production in various collective farms and to derive a correct picture of the motion of outlays for collective farm production. If today, cost of production is calculated with allowance for the factual payment of the collective farmers' labor, then in collective farms where the payment for each labor day unit is still low, the cost may prove to be lower than in advanced collective farms, and this of course does not correspond to reality.

There can be no doubt that as a result of improvement in the work of the economically weak collective farms, the strengthening of their economies, and the increase in the productivity of labor of the collective farmers, the level of

payment of labor will even out (although it will probably never be completely identical). And this will make possible a more precise determination and comparison of cost of production in different collective farms. The measures for the sharp upsurge in agriculture carried out by the Party during recent years facilitate a rapid acceleration of this process.

As the economies of the collective farms improve and they convert to guaranteed and monetary payment for labor, the need for evaluation of the labor of the collective farmers on the basis of the wage scales of state farm workers will gradually disappear. Their practical experience will lead the collective farms themselves to establish their own definite standards for the payment of labor, and to create the required material self-interests on the part of the collective farmers in developing the public economy of the collective farms and this will tend toward average socially necessary expenditures for the payment of labor in the collective farms. Meanwhile, temporarily, and during the initial period, it is necessary to evaluate the labor of the collective farmers by the wage scales of workers in the state farms which are currently closer to the average socially necessary outlays for reproduction of labor power in agriculture.

It is not accidental that some advanced collective farms are, even today, applying a firm guaranteed payment for the labor day units. Thus, for example, the Stalin Collective Farm of Shatsky District of the Ryazan Region has set a fixed price for the labor day units at eight rubles. This collective farm has, for several years, been calculating the cost of production on the basis of eight rubles per collective farm or farmer's labor day units. The actual payments in money and products per labor day unit in this collective farm have been: in 1954, 9 rubles 79 kopecks; in 1955, 15 rubles 94 kopecks; in 1956, 18 rubles. The difference between the factual payments in money and product per labor day, and the fixed guarantee for the labor day in the collective farm is regarded as a factor of additional distribution of net income in accordance with labor day units, and is not included in the cost of production. When the work of the collective farmer is calculated in this fashion, the cost of production in the Stalin Collective Farm shows a decrease from year to year. Some collective farms have set the share evaluation for performance of a daily work quota not in labor day units but in rubles. On a piece work basis, it should be emphasized in this connection, that both piece work rates paid in rubles and a fixed guarantee for the labor day in these collective farms are set at levels quite close to the level of payment for workers in the state farms. Under today's conditions this makes it possible for the collective farms to calculate the planned and compute the true cost of production, to determine the results of their economic activities in production, and the profitability and economic efficiency of the economy of the whole and of its separate branches and cultures.

As we know, the labor of workers in state farms is paid on a piecework basis calculated on a fulfillment of a daily quota of work for each type of work. The use of these scale rates to evaluate the corresponding types of work in the collective farm production will include an identical sum for the payment of labor, which will be paid out for this work in accordance with the scales paid to workers in the state farms. In this connection it is important that the labor of the collective farms is evaluated at the level of productivity of labor applied for calculation of piece rates in the state farms.

The most precise estimate for the expenditures of labor by the collective farms in accordance with scale rate paid to workers in the state farm is attained when each type of work in the collective farm is estimated in accordance with

the corresponding piece work rate paid to workers in the state farm. For example, if a sower in a state farm is paid 18.2 rubles to carry out a daily work quota for the planting of grain, and in a collective farm the same quota is credited with two labor day units, then in this given case these two labor day units should be valued at a sum of 18.2 units, or 9 rubles and 10 kopecks for each labor day unit. Thus all the labor day units expended by sowers in the planting of grain products are evaluated at 9 rubles and 10 kopecks in the collective farms. If the daily work quotas in the collective farms are higher or lower than the corresponding standards in the state farms, the piece work scale for this work must be raised or lowered proportionately — as measured in rubles. Thus, for example, the daily work quota for gleaning potatoes after the potato digger has passed, is set at 10 centners in the state farms, and the piece work rate for this is 15 rubles. In a collective farm the quota for this work is 9 centners, and the scale of payment is 1.75 labor day units. Consequently, in the given instance the piece work scale of payment in rubles for the quota of work in the collective farm, 9 centners, must be cut by 1.5 rubles and comes to 13 rubles and 50 kopecks instead of 15 rubles. And the value of a labor day unit will be 7.7 rubles (13.5 rubles divided by 1.75).

However, this method of estimating the labor of collective farmers is most laborious and can be applied in practice only when the cost of collective farm production is being estimated directly in the farms themselves. When the cost is calculated on the basis of the data in the final annual reports for the average per collective farm in a district, region, or republic, this method is incapable of application in practice. This is due to the fact that the annual reports of the collective farms, and the appendices thereto provide no data on the volume of work done to produce the individual product, but data only on the labor day units expended in the production of these products. In order to evaluate these labor day units, it is necessary to have an average evaluation of a labor day unit calculated on the basis of the appropriate pay rates for all the fundamental types of work in the state farms, and the piece work rates for this type of work in the collective farms measured in labor day units.

This method of estimating the expenditures of labor by the collective farmers on the basis of an average evaluation of the labor day units in the collective farms, is used in the Central Statistical Administration of the USSR in calculating the cost of collective farm production on the basis of the data of the appendices to the annual report of the collective farms on the labor day units and money and material outlays expended on the production of major types of products.

In order to convince oneself of the practicability under today's conditions of calculating the labor of collective farmers on the basis of the wage scales on the state farms, let us examine certain data from a selective grouped elaboration of annual reports of collective farms for 1957 as made by the Central Statistical Administration of the USSR. The collective farms chosen were divided by region and republic into categories by sale of gross agricultural production per hundred hectares of arable land into three groups: advanced, average, and backward collective farms. In these groups of collective farms, the yields of grain product per acre, and the cost of production of grain (not counting corn) calculated on the basis of the work of the collective farm workers in accordance with the wage scales of state farm workers and in accordance with the actual payments per labor day unit, are described by the following data:

	Leading collective farms	Average collective farms	Lagging collective farms	Number of collective farms included
Ukrainian SSR				
Yield of collective farms included	17.9	14.9	13.0	2,561
Cost per centner when labor day units are calculated in rubles as follows:				
a) On the wage rates for workers of state farms	35	43	50	---
b) On the real payments per labor day units	43	42	40	---
Moldavian SSR				
Yield of collective farms included	19.7	17.7	13.7	105
Cost per centner when labor day units are calculated in rubles as follows:				
a) On the wage rates for workers of state farms	41	45	67	---
b) On the real payments per labor day units	65	54	61	---

The yield of grains in these districts in 1957 was 50% greater in the progressive collective farms than in the backward ones. And the cost of the production of grain, calculated on the basis of the work of the collective farmers in accordance with the wage rate paid to workers in the state farms was considerably less in the advanced collective farms than in the lagging collective farms. However, when the work of the collective farmers was calculated on the basis of the real payment in money and products for labor day units, the cost of production per centner of grain was almost identical in all groups of collective farms (actually somewhat lower in the lagging farms than in the advanced ones). An analogous picture is found in relation to the cost levels of production for vegetables and other cultures calculated on the basis of an estimate of the labor outlays of collective farmers by these two methods.

The cost of production per centner of milk in various groups of collective farms calculated on the basis of an evaluation of the work of the collective farmers in accordance with the actual payments of money and produce per labor day unit, is described by the following data for 1957 (see Table following).

As may be seen from the table, the average annual production of milk per cow in 1957 in the advanced farms was 60% greater than in the lagging farms. However, the cost of production per centner of milk in the advanced farms was considerably lower than in the lagging ones. For example, in the advanced collective farms of districts of the central non-black earth region, the cost of one centner of milk calculated on the basis of the work of the collective farmers in accordance with the pay rates of workers in state farms came to 141 rubles in 1957, and to 193 rubles in the lagging farms. In the collective farms of the central black earth region, the respective figures were 131 and 187; and in the collective farms of the Ukrainian Soviet Socialist Republic, 125 and 168 rubles. Another picture emerges if the cost of milk be calculated on the basis of an evaluation of the collective farmers' labor on the actual payments of money and labor day units. Under these conditions the cost of milk proves to be highest in the advanced collective farms, and lowest in the backward farms. Thus, in the advanced collective farms of districts of the central non-black earth region, the cost per centner of

	Progressive collective farms	Average collective farms	Backward collective farms	Total number of collective farms studied
Districts in central non-black earth region				
Average annual production per cow in liters	2,722	2,212	1,687	1,707
Cost per centner when labor day units are evaluated in rubles:				
a) by wage scales for state farm workers	141	162	193	---
b) by actual payments per labor day unit	154	134	127	---
Districts in central black earth region				
Average annual production per cow in liters	2,651	2,164	1,629	842
Cost per centner when labor day units are evaluated in rubles:				
a) by wage scales for state farm workers	131	146	187	---
b) by actual payments per labor day unit	137	116	115	---
Ukrainian Soviet Socialist Republic				
Average annual production per cow in liters	2,657	2,042	1,655	2,561
Cost per centner when labor day units are evaluated in rubles:				
a) by wage scales for state farm workers	125	143	168	---
b) by actual payments per labor day unit	150	135	131	---

milk was 154 rubles, and in the lagging farms, 127 rubles. In the Ukrainian SSR, the corresponding figures are 150 and 131 rubles; and in the collective farms of the central black earth region, 137 and 115 rubles.

Approximately the same applies with regard to the cost of milk in other districts of the USSR, and also holds for other livestock products.

In view of the foregoing, the method of calculating the cost of collective farm products that has now been adopted by the Central Statistical Administration of the USSR, the Ministry of Agriculture of the USSR, and the All-Union Scientific Research Institute for Agricultural Economics, is based on an estimate of the labor of the collective farmers in accordance with the wage rate paid to workers in the state farms.

One of the most important methodological questions arising in calculating the cost of production in collective farms is that of how to estimate the products and materials produced on the farm and consumed in the process of its own production. At the present time, feed, seed, and other materials produced by the collective farms themselves are calculated on the cost of their production in the collective farms when computations are made of productive outlays for the purpose of calculating the cost of collective farm produce. This procedure for the evaluation of seed, feed, and other materials produced in the given enterprise is also used in the state farms. In this situation, the seed is calculated on the cost of the previous year inasmuch as it is taken from the harvest of the previous year. During the first half of a given calendar year feed comes, as we know, from the transient residue of the preceding year; and in the second half of the year, it comes from the new harvest of the given year. Consequently, one portion of the seed has to be evaluated on the basis of the cost of its production during the preceding year, and the other portion on the basis of its production during the given year. Grain forage and milk used to feed livestock are calculated completely on the basis of the cost during the current year. Milk and skimmed milk used to feed large cattle are ascribed entirely to expenditures for increasing the weight of young cattle. Inasmuch as during the first year of calculation of the cost of collective farm production, the cost of seed and feed produced during the preceding year is unknown, they have to be calculated on the basis of the cost for the current year. Some economists believe that seed, feed, and other products and materials produced by the collective farm have to be calculated not on the basis of costs of production, but on the basis of government purchase prices. They cite the point made by Karl Marx to the effect that under capitalist conditions tenants and other agricultural producers have to estimate the products raised in their own economies and consumed for purposes of production on the basis of market prices, and must be calculated as such.

This point by Marx doubtless applies to socialist agricultural enterprises as well, inasmuch as commodity production and commodity relationships are retained therein. However, this by no means necessitates the conclusion that our collective farms and state farms must mechanically, without consideration of specific conditions, estimate the cost of seed and feed they have themselves produced on the basis of the prices paid to collective farms and to state farms.

The distinction between state farms' surrender prices and collective farms' purchase prices on the one hand, and market prices on the other, lies primarily in the fact that they show a more or less constant difference from cost. For example, the surrender prices for the products of state farms were, as we know, for a long period set at a level that did not provide for repayment of the expenditures by the state farms on the produce they produced. As a result, the state

farms received subsidies from the national treasury. It is quite obvious that if the state farms had during the past forty years calculated the cost of production on the basis of an estimate of the seed, feed, and other products and materials they themselves produced in accordance with the effective surrender prices, this cost would be clearly understated and it would not correspond to the actual expenditures of the state farms for the produce they produced. The surrender prices for state farm produce now in effect have been raised considerably and are differentiated district by district. They, too, do not correspond to value, particularly in specific and concrete districts. Even more complex is the question of evaluation of the seed and feed at collective farm sale prices. The point is that, even today, the collective farms sell their produce at a number of prices: at unified government purchase prices, and at the prices of the collective farm market, while the collective farms in suburban districts sell a portion of their produce at government retail prices minus a commercial discount. It should not be forgotten that, prior to 1958, the collective farms sold a considerable portion of their produce in accordance with government obligatory delivery prices.

Therefore, it is hardly conceivable as correct to identify the insignificant role of the market price for the farmer under the conditions of capitalism, in which market prices are the sole measure for evaluation of the product of agriculture and where these prices are the means by which the producer realizes his total commodity production on the one hand, with the significance and role of government purchase prices of collective farm market prices under the conditions of the USSR where the collective farms realize their commodity production in accordance with a number of different price scales. Each of these prices taken alone is not a factual standard for the evaluation of the total commodity output of the collective farms. Consequently, an estimation of the seed and feed produced by the collective farms themselves in accordance with any single one of these prices would not correspond to their real expenditures upon the production of these types of products in the collective farms.

Two examples will suffice to demonstrate this. Thus, the average price for grain in the collective farms of the North Caucasus is now approximately 60 rubles per centner, while the cost of grain in collective farms of these districts averaged 37 rubles for 1956 and 1957; or, in other words, 23 rubles below the sale price. In the collective farms of the central non-black earth region, the average sale price is established at approximately 80 rubles per centner, while the average cost for two years was 118 rubles, or 38 rubles higher than the sale price. The cost of collective farm production cannot be directly compared with price inasmuch as collective farms must not only recoup their expenditures, but must pay government taxes and assessments from the sums acquired by sale of their products and must also make payments into the public funds of the collective farms, including the indivisible funds for the purpose of expanding production. It is obvious, nonetheless, that if in the collective farms of districts of the North Caucasus the prices of the grain seed produced on these farms themselves were calculated in terms of purchase price, the cost of the grain would obviously be overestimated as against the actual expenditures of the collective farms. Contrariwise, in the collective farms of the districts of the central non-black earth region the cost of grain would be clearly understated if seed were evaluated in accordance with purchase prices.

The fact that calculation by purchase price of seed and feed produced on the farm itself results in incorrect estimations of the cost of agricultural products in collective farms, is borne witness to by the following data on the cost

	Progressive collective farms	Average collective farms	Lagging collective farms
Ukrainian Soviet Socialist Republic			
Cost per centner of grain when seed and payment in kind for the work of the machine and tractor stations are calculated:			
a) by cost of production in collective farms	35	43	50
b) by purchase price	45	60	57
Moldavian SSR			
Cost per centner of grain when seed and payment in kind for the work of the machine and tractor stations are calculated:			
a) by cost of production in collective farms	41	45	67
b) by purchase price	50	52	67
Districts of the Central Black Earth Zone			
Cost per centner of grain when seed and payment in kind for the work of the machine and tractor stations are calculated:			
a) by cost of production in collective farms	46	55	85
b) by purchase price	55	61	80

of production of a single centner of grain in various groups of collective farms in 1957 in rubles (see Table above).

In collective farms where the purchase prices for grain was higher than the cost of production for seed and the payment in kind for the work of the machine and tractor stations, the cost of grain proved to be higher when the seed and payment in kind were calculated on purchase price. In this case, the cost of the grain included not only productive outlays, but some portion of pure income. Contrariwise, in collective farms where purchase prices for grain were lower than the cost of production of seed and payment in kind for the work of the machine and tractor stations, and the cost of the grain proved to be lower, the cost did not fail to include some portion of the actual outlays by the collective farm. Therefore, it would be correct to calculate the cost of collective farm production on the basis of an estimate of seed and feed produced in the collective farm in accordance with its cost in the collective farm.

Of exceptional importance for correct determination of methods of calculation of cost of production in collective farms are the decisions of the February and June 1958 plenums of the Central Committee of the Communist Party of the Soviet Union, which provide a firm foundation and clear and simple conditions for calculations of costs. Thus, in connection with the repeal of payment in kind for work of the machine and tractor stations, the earlier debates as to whether they are correctly evaluated in calculating the cost of collective farm production become pointless. In the great majority of collective farms equipment will belong to them themselves, and it will therefore not be necessary to pay for it. In collective farms which will be served on the previous bases, calculations for service will now be in monetary form. This monetary payment has to be included in calculations of cost of production in the collective farms.

The question of evaluation of payment in kind for the work of the machine and tractor stations can be of significance only if it is necessary to calculate the cost of collective farm production during the preceding years, and also for 1958, inasmuch as the collective farms will surrender produce for work by the machine and tractor stations performed in 1957 for this year's crop in accordance with the rates previously in existence, or will pay them in cash on the basis of the unified purchase prices established by the government. This

question is currently a transitional one and may be resolved with consideration of the conditions of calculations for the given year.

Thus the new conditions for the productive activity of the collective farms considerably facilitate calculations of costs, and the latter facilitate the further creative elaboration of economically justified prices for agricultural produce purchased from the collective farms. In the future, under conditions of constant accounting and analysis of the cost of collective farm production, and the development of the collective farms, it is possible that various changes will be introduced into this method in connection with the constant development of socialist agricultural production. Under these conditions, the elaboration of scientific methods of analysis of costs, with the object of revealing new unused resources for reducing the cost will be even more important. The constant rise in the productivity of labor of agriculture, and the reduction in the cost of agricultural produce on the basis thereof, are the most important conditions for the further sharp rise in agriculture in our country.

At the present time the Central Statistical Administration of the USSR, the USSR Ministry of Agriculture, and the All-Union Scientific Research Institute for Agricultural Economics have developed a unified method of calculation of the cost of production in the collective farms. Calculation of the cost of production by this method will be performed by all collective farms in the USSR on the basis of their annual reports for 1958. All this makes for a greater assurance that the planning of economically justifiable prices for agricultural produce produced in the collective farms will occur. Below we adduce in brief the content of this method.

In collective farms, as in industrial enterprises, payment for the means of production (previous, concrete labor) expended upon newly produced production, is a component part of the cost of this production. The labor of the collective farmers newly expended upon production of collective farm produce also enters into the cost to the degree that it represents necessary labor or labor for themselves. The surplus labor of the collective farmers, or labor for society, creates the net income of collective farms. The net income, or the total surplus product created in the public production of the collective farm, is the difference between the cost and the value of collective farm production.

Thus the cost of collective farm production is the expression in monetary form of a portion of the value of this production, including all the expenditures of the collective farms on the production of produce in the form of amortization of the basic equipment needed for production, expenditures of seed, feed, fertilizer, and other circulating capital, and also that portion of the expenditures of living labor representing the necessary labor of the collective farmers.

The cost of collective farm produce must include all expenditures made directly by the collective farm itself for purposes of this production. In point of fact, the cost of collective farm production comprises the following fundamental elements: 1) payment for living labor (including hired persons); 2) expenditures of seed, feed, fertilizer, fuel, and other products and materials (produced by the farm itself); 3) expenditures on carrying out current repairs and amortization of basic means of production; 4) expenditures for subsidiary services and areas of production (automotive transport, working cattle, electric power plants, etc.).

Expenditures are categorized as direct, general productive, and general economic, in accordance with the degree to which they were utilized for specific cultures, types of cattle, and other branches of production.

Direct expenditures include all outlays expended directly for the production of some given product, such as, for example, grain, potatoes, milk, and so forth. This includes all expenditures for work in raising particular cultures, in looking after individual types of cattle, seed, and seed material, feed (including expenditures for storage and transportation), mineral and organic fertilizer, expenditures to combat plant and livestock diseases and insects, etc.

General productive, or general branchwise expenditures are those applied to agriculture, horticulture, or stock farming as a whole. They include the payment to team leaders of the field teams, team leaders of tractor teams, managers of the livestock farms of the collective farms, payments to experts, payments for maintenance of field camps, etc.

General economic expenditures include the payment of the labor of the administrative and business personnel, monetary supplementary payments to farm chairmen and experts serving the entire economy, transport serving the farm as a whole, etc.

Direct expenditures pertain entirely to the production of some given product, while general productive and general economic expenditures are distributed among the individual products in specific proportions.

In collective farms, as in all government enterprises, the general productive and the general economic expenditures are distributed among the various cultures and types of cattle, usually in proportion to direct wages. In collective farms, the general productive and general economic expenditures should also be distributed among the various cultures and branches of the economy in proportion to direct payments for labor day units (or in proportion to the total evaluation thereof); and if payment is in money, in proportion to the total payment. Expenditures for automotive transport should be distributed among the cultures, the livestock farms, the auxiliary enterprises, construction, and work on the side in proportion to the quantity of the freight carried in each field (calculated as ton-kilometers). Expenditures for the maintenance of working cattle should be distributed in proportion to the quantity of the horse-days (or oxen days) worked by working cattle on particular crops, on the livestock farms, on servicing the personal needs of the collective farmers, in work on the side, and in other branches of the public economy of the collective farms. Expenditures for the operation of electric power plants should be distributed in proportion to

the amount of energy (kilowatt hours) supplied to the various branches of the economy and on the side.

The expenditures of repair work shops and other service enterprises should be distributed in proportion to the volume of work performed for one or another branch of the public economy of the collective farm. Under conditions in which, in the individual collective farms, calculation of the work of automotive transport, living working animals, and repair workshops is not carried out with regard to the individual crops and branches of production, these expenditures should be distributed among the branches of production as general economic expenditures, that is, in proportion to the direct payment for labor.

The level of amortization of the fundamental means of production of the collective farms is determined on the basis of the established amortization levels for the corresponding fundamental means of production in the state farms. Distribution of amortization deductions in accordance with individual crops and branches of the economy should be made as follows: A) if the basic means of production are designated for production of some single one of a number of associated types of produce (cow barns, pig barns, sheep folds, electric milking machines, grain dryers, potato storage depots, etc.), then the deductions for amortization should be included directly in the expenditures for the production of the corresponding product; B) if the basic means of production are designated for production not of individual products but for the production of an entire branch of production (for example, agriculture, livestock raising), or for the production of the produce of the economy as a whole, the deductions for amortization are distributed among the branches and crops by the same procedure as are the general production and general economic outlays.

A distribution of outlays between fundamental and byproduct production should be made in proportion to the total evaluation of this production in accordance with government purchase prices. In estimating production by purchase prices, a more accurate evaluation will be obtained of the feed and other values, both of basic and of byproduct produce, than when they are converted into units of feed as certain comrades propose. This being the case, byproduct production should include the quantity collected and for which receipts have been issued by the collective farm. Byproduct production remaining in the fields, such as straw in the virgin soil districts (where it is burned directly in the fields), are not included in the estimates. All expenditures made after the harvest for the purchase of processing the grain, collecting straw, and so forth, should be ascribed directly to the corresponding form of production. Expenditures should be divided in the same manner among associated types of produce, such as, for example, flax and northern hemp fibre and seed and other fibrous crops, the wool and meat of sheep, the meat and eggs of chickens, etc. In this connection, it is recommended that the expenditures on flax and northern hemp be calculated separately after the harvest of these crops inasmuch as the expenditures for the processing of seed and for the treatment of retted dry straw and fiber pertain directly to the cost of these products. Where northern hemp is concerned, the direct expenditures upon the picking of the male hemp plants should be reckoned as the costs of fiber. However, the cost of labor for production of flax and hemp (prior to the harvest) are distributed in proportion to the sums of the estimates of the seeds and the straw but not of the fiber or the retted flax.

In the raising of sheep and chickens, the expenditures upon clipping the sheep, and upon collecting the eggs should be ascribed directly to the cost of production of these products. The other expenditures for care of sheep and fowl are distributed in proportion to the sums of the estimates of the costs

of similar products, i.e., milk and wool, eggs and fowl meat. Accounting of outlay in labor day units and money and material means of production, as it pertained to the major forms of collective farm produce, was first introduced in the annual reports of the collective farms as a special appendix in 1956. In these appendices, the collective farms presented, in 1956 and 1957, data on the direct and indirect expenditures in labor day units and money and materials for the production of each type of product. The data on the expenditures in labor day units, and also in produce and materials produced on the farms themselves, are presented in natural form in the appendices to the annual reports to the collective farm, or, in other words, they are not evaluated in rubles. An exception to this rule is presented by expenditures for the payment of hired persons, and on the purchase of products and materials; these are listed in the expenditures as the sums of money actually paid out.

The cost of collective farm produce should be a monetary expression of all outlays for the payment of labor, and of all means of production expended thereon. Therefore, the data

in the annual reports of the collective farms as to the outlays in labor day units, produce, and materials they themselves produce, expended upon the production of various types of produce, should be expressed in the monetary form in the calculations of cost.

Editors' Note:

In publishing this article in which the method of calculating the cost of collective farm produce recommended by the Central Statistical Administration of the USSR, the Ministry of Agriculture of the USSR, and the All-Union Scientific Research Institute for Agricultural Economics is set forth, the editors close the discussion on this question. At present attention must be concentrated primarily on elaborating the methods and means of reducing the costs of collective farms and the individual components thereof. In this connection it is important also to elaborate problems of further improvement of methods of accounting and calculation of the cost of production.

L. Kadyshev:

Theoretical Problems of Financing Under Socialism and Capitalism

Voprosy Teorii Finansov (Problems of the Theory of Finance). A Collection of Articles. Government Printing Office for Finances, 1957, 192 pp.

The book under review examines the essence and function of the finances of the Socialist state (article by V. D'yachenko), financing of branches of the national economy of the USSR (article by A. Birman), and characterizations of the most important changes that have occurred in government financing in the capitalist countries during the second stage of the general crisis of capitalism (article by A. Eidel'nant).

The article by V. D'yachenko presents certain results of work conducted by Soviet economists over a long term of years in the field of the theory of Soviet finances and poses particular questions requiring further elaboration. The author shows that the works of the classical Marxist-Leninist writers and the resolution of our Party contained fundamental propositions providing a basis for the theory of finances of the socialist state. Of particular interest is the presentation of the process of formation of a Marxist-Leninist theory of finance under socialism. The author shows how bourgeois views as to the essence of finance were overcome, and how the science of Soviet finance was developed on the basis of the progress of the political economy of socialism, and of generalizations from the practical activity of Soviet financial and credit systems.

V. D'yachenko notes that an important element in the development of the Marxist-Leninist science of finances under socialism was the overcoming of the popular view to the effect that Soviet finances are merely a system of forms and utilizations of money by the Soviet government, or a system of measures of the Soviet state serving the formation and utilization of social funds to satisfy the needs of the state as a whole. These views, which ignore the objective character of the financial categories in socialist society, were a reflection of a voluntarist approach to the question of the nature of economic laws under socialism.

One must also acknowledge the correctness of the author's critique of the view according to which Soviet finances are sums of money and not relationships expressed in the planned formation and utilization of sums of money in the interests of assuring the growth of socialist production, the increase in the material and cultural living standards of the working people and satisfaction of the various requirements of socialist society.

In Soviet economic science finances are usually defined as relationships embracing not only the formation and utilization of monetary funds possessed by the state as a whole including the national treasury, and the funds to provide credits to the national economy, but also the finances and branches of the national economy. This definition is advanced specifically in the textbook on political economy,

"The finances of the socialist state are a system of planned formation and distribution of monetary funds in the national economy in the interests of assuring a continuous expansion of production and an uninterrupted increase in the material and cultural living standards of the people." (1)

An analogous definition of the finances of socialist soci-

ety may be found in the second edition of A. L. Aleksandrov's book, *The Finances of the USSR*.

The point of view held by V. D'yachenko is to the effect that the finances of socialist society include three distinctively although intimately interrelated components: the finances of the socialist state, credits, and the finances of the enterprises and branches of the national economy. In the author's opinion, a general feeling of the finances of the socialist state can be created on the basis of a profound elaboration of the three components of the system of finances under socialism listed above. Unfortunately, V. D'yachenko does not provide his own definition of the finances of socialist society and this is a shortcoming in his article.

Pride of place in the article is given to questions as to the essence, role, and functions of finances in the socialist state. In defining the essence of government finances under socialism, the author notes that they represent a system of monetary relationships inasmuch as they are indissolubly interrelated with value and its monetary expression, and with the functioning of money. He distinguishes the relationships expressing a change in the form of money from relationships expressing the changes in value itself. He believes that government finances fall in the field of monetary relationships expressing changes in money itself.

The author notes that the category of government finances is intimately interrelated with distributive relationships in the socialist economy, including both the initial distribution of the national income and the formation of its major sources of income, and the further distribution (redistribution) of monetary accumulations and incomes already constituted.

"The need for the formation and utilization of monetary incomes and accumulations in order to transfer the social product from production to consumption is one of the conditions out of which finances arise." (p. 57)

This position held by the author must be recognized to be correct. In our opinion, he is absolutely right in emphasizing that the sphere of finances in socialist society is limited to distributive relationships.

V. D'yachenko demonstrates a number of fundamental distinctions between government finances under socialism and those of the capitalist countries. In addition to the diametrically opposed nature of their social, economic, and class essence, the finances of the socialist state are distinguished by the productive nature of the utilization of most of the monetary funds at its disposal, and their extensive employment for the satisfaction of the social and cultural needs of society. Further, under socialism, when the state disposes of the bulk of the means of production, the sphere of distributive relationships embraced by the finances of the socialist state is substantially broader than the sphere of distributive finances embraced by capitalist states. Under these circumstances, the author emphasizes, the socialist state participates directly in a variety of forms in the initial distribution of the national income. It sets aside wage funds for the personnel in the sphere of production, sets up a fund for social insurance, and is the recipient of a net income created at government-owned enterprises.

V. D'yachenko correctly describes the special features of government financing under socialism, which differentiate them fundamentally from the finances of capitalist governments whose function is essentially confined to the sphere of redistribution. However, one cannot deem correct his reduction of the role of finances in bourgeois states only to a redistribution of the national income. The development of state monopoly capitalism, and the transfer of a certain

portion of the means of production into the property of the bourgeois state signifies that the latter directly acquires the surplus value created by the workers in government owned enterprises. It makes disposition of this surplus value, as it does of the other monetary resources coming into its hands, in the interests of the monopolies. Thus, the capitalist state participates in the primary distribution of national income to the degree that it is the owner of the means of production.

The author writes that,

"While, in certain capitalist countries, there are enterprises belonging to the government and yielding it income, their role in the totality of social production is not great, and the organization of their activity is subordinated either to fiscal objectives, that is, the derivation of income for the treasury, income which is expended unproductively, or to the objectives of enrichment of the monopolies." (p. 50)

In our opinion, regardless of how the resources of the enterprises belonging to the capitalist states are disposed of, the incomes of these enterprises must be regarded as one of the forms of primary distribution of the national fund.

Also dubious is V. D'yachenko's hypothesis to the effect that the system of purchases of agricultural products from the collective farms, and the prices paid for these compulsory deliveries by the socialist state, means that it is participating in the primary distribution of a portion of the national income created in collective farm production. In our view, this is an element of redistribution, as a result of which a portion of the net income of the collective farms reaches the centralized funds of the state and is subsequently used in the interests of the people as a whole.

One of the important questions posed in the article is that of drawing the line of distinction between finances and credit in a socialist economy. Despite the widespread view in accordance with which credit is a component of finances, V. D'yachenko emphasizes the significant distinctions between government finances and credit under socialism. He holds that government finances serve the formation of monetary funds at the disposal of the enterprises and the business institutions of the portion of production that is controlled by the government, the maintenance of offices and organizations in the non-productive sphere, and the formation of government reserve funds. Credit, on the other hand, serves the temporary needs of the enterprises and business institutions (and in part, of the population) for money. As far as finances are concerned, change in the form of value is merely a prerequisite for the formation of a source of monetary income and accumulations. Credit is directly involved in the change in the form of value, and serves the circulation of funds in the economy. The source of the financial resources of the government is that portion of the national income which constitutes government income, as well as the monetary funds earlier distributed among the enterprises and business institutions in the spheres of production controlled by the government, plus the general government-wide reserve fund brought into being. The source of credit resources is the free liquid assets of the national economy and the population. In subsidized financing, funds are doled out with no requirement that they be returned, and constitute the income of those who obtain them. In financing by credit, funds are transmitted on the condition that they will be returned, and acquisition of such credits does not constitute income. In summarizing his concept of the difference between government finances and credits, V. D'yachenko notes that finances are based on the creation and redistribution of the national income, while credit is based on the circulation of funds in the process of reproduction (pp. 65, 66).

However, the author's standpoint with regard to the limi-

tation of the boundary between government finances and credit is not entirely justified. Despite certain differences, the government budget and credit are intimately interrelated under socialism. The funds in the national treasury are an important source of short term credit. On the other hand, one of the forms of credit, government credit, is at the same time a form of income to the national treasury. Consequently, not only finances but credit participate in the distribution of the national income.

V. D'yachenko holds that the transmission of monetary means as credit does not involve distribution and redistribution of income, inasmuch as these means have to be returned. However, redistribution of elements of the national income among branches and sectors of the socialist economy, and among individual enterprises, may occur here nonetheless. The planned distribution of income and accumulation, which the author defines as the distinctive characteristic of finances, pertains to a significant degree to credit as well.

All the foregoing leads to the conclusion that the question of the relationship and the difference between government financing and credit in a socialist economy, as put forth in the article by V. D'yachenko, requires further elaboration.

The author has put forth in interesting fashion the problem of the relationship between, and the delimitation between, the finances of the socialist state and the finances of enterprises and branches of the national economy. He shows that the finances of the socialist state embrace certain aspects of the finances of the economies and branches of the national economy (primary distribution of the national income, and redistribution of a portion of the income, and accumulations within the productive sphere), but do not embrace all aspects of finances of enterprises and branches of the economy. In the finances of enterprises and branches of the national economy which are most closely related to the circulation of funds, and which serve this purpose, financial forms of distribution and redistribution of monetary means are combined with credit funds. In demonstrating the unity of government financing and the financing of enterprises, the author shows that the degree of this unity varies in accordance with the form of socialist property in the means of production. The article presents a detailed analysis of both functions of finances in the socialist state: the distributive and the monitoring. The presentation of this question, and the rationalization thereof are of important significance in connection with the fact that a number of contradictory points of view exist in this regard. (Some economists speak of three functions of government financing: productive, distributive, and monitoring; and others deny the existence of either the function of monitoring or of distribution.)

V. D'yachenko advances a significant point to the effect that the study both of the finances of the socialist state, and of monetary circulation and credit in the socialist economy, must embrace the finances, money, and credit not only of the USSR but of the lands of peoples' democracy (p. 77). And it is true that in the conditions of a world system of socialism, a theoretical investigation of finances must include a generalization of the experience of the development of finances and credit in the lands of the peoples' democracy.

In V. D'yachenko's article, very important problems pertaining to the essence and functions of finances under socialism are elaborated. A number of the problems posed in the article are discussed to an adequate degree, but some others require further study.

In the article by A. Birman, published in this collection, there is a detailed presentation of the major theoretical problems of the finances of the enterprises and branches of

the socialist national economy. This article presents certain generalizations from the experience of the development of the young and as yet growing science of finances of socialist society: to wit, the finances of the branches of the national economy.

A. Birman, in defining the content of the financial aspect of the activity of enterprises and branches of the national economy, characterizes this as including "all monetary relationships having to do with production and the sale of products, with the reproduction of the fixed and circulating funds and the rotating funds, and with the formation and distribution of monetary income in the sphere of material production." (p. 103). The author provides a concrete demonstration of the content of these monetary relationships: those between government-owned enterprises and their workers and personnel, those between government enterprises and their members, those between the government and the enterprises it owns, and those among enterprises and business organizations, etc. The article provides a definition of the finances of the branches of the USSR economy as the totality

"of monetary relationships existing objectively in the branches of the national economy, arising in the process of production and sale of products, and serving as the means for the carrying out of this process..." (p. 109)

This definition is of scientific interest and, in our opinion, is correct, although it is challenged by some economists who hold that it provides an excessively broad characterization of the essence of the finances of branches of the national economy.

A. Birman's article observes that, in the sphere of material production, no basis exists for delimitations between finances and credit, but that it is necessary to distinguish between the formation and utilization by enterprises of their own funds, funds obtained from the government budget, and funds obtained by loans. In criticizing the definition of finances of enterprises and branches of the national economy as funds of money, the author does not, however, explain why the definition he proposes distinguishes between the roles of the financial and credit system of issuance and receipt of funds, and denigrates the significance of the monitoring thus performed by financial means in the sphere of material production.

The author develops a correct idea to the effect that only cost accounting is capable of serving as a rational foundation for the finances of enterprises and branches of the national economy. At the same time, a major advantage of the socialist economy is the possibility of juggling financial resources in the relations between enterprises and branches of the national economy.

A. Birman's article analyzes factors determining the organization of finances of socialist enterprises and branches of the national economy. Such factors include the forms of socialist property, the system of cost accounting, and the specific peculiarities of the production process in the various branches of the national economy. (2)

The author shows that the finances of enterprises and branches of the national economy are founded in production. Their organization is conditioned by the special features of the various branches of the national economy. In addition, finances exercise an active influence upon the economics of the branches of industry.

"A correctly constructed system of prices, wage rates, scales, extra payments, and deductions, as well as tax payments, makes for an increase in the material interest of working people in the course and results of production; and consequently, for an increase in the productivity of labor, facilitates improvement in the distribution of the productive forces in the specialization and cooperation among enter-

prises, and in rationalization of supply and marketing of deliveries and trade. This demonstrates the effect of the law of value upon the sphere of production in the period of transition from socialism to communism." (pp. 130, 131).

In his article, A. Birman sets forth in detail the problems of the functions of enterprises in the branches of the national economy, and notes a number of shortcomings existing in socialist business practices that complicate successful and uninterrupted performance of these functions. He also sheds light on ways to eliminate these shortcomings.

A. Birman notes that the finances of the branches fulfill the following three functions: provision of financial resources for the circulation of means in the economy; distribution of monetary income and accumulations; and monitoring by means of the ruble of the formation and utilization of resources of enterprises and branches of industry.

A shortcoming in A. Birman's article is the fact that it reflects but weakly problems of the further development of the finances of the enterprises and branches of the national economy, particularly in connection with the reorganization of the administration of industry and construction that has occurred. Among these problems is that of the role performed in the organization of the finances of enterprises by the National Economic Councils and their administrations for the individual branches of the economy.

The article by A. Eidel'nant sheds light on the most important processes characterizing the development of the government finances of capitalist countries after the Second World War. The author illustrates the enormous increase in the expenditures of government budgets in these countries as against pre-war years, chiefly due to a sharp increase in military expenditures. He notes various types of subsidies to monopolies and the growth in the government apparatus. The development of state monopoly capitalism leads to a significant strengthening of the role of the national budget in the redistribution of national income in the interest of the monopolies.

A. Eidel'nant points out that the second stage in the general crisis of capitalism is characterized not only by increase in government budgets of the capitalist countries, but by a considerably more active utilization thereof in state monopolist influencing of the circulation of money on the state of economic activity and the motion of the capitalist cycle. This finds expression in the so-called "theory of pump priming." The author exposes bourgeois apologetic views to the effect that an increase in the role of the government budget is capable of achieving crisis-free development of the capitalist economy.

A significant place in the article is occupied by the illustration of the question of the enormous rise in the burden of taxation in capitalist countries, which is borne ever increasingly upon the shoulders of the working people. The article does not provide data on the increase in the deficits in the budgets of capitalist countries after World War II, but does demonstrate one of the most important consequences of the budgetary deficit, a pronounced increase in the national debt.

A. Eidel'nant's article provides an adequately full presentation of the major changes in government financing in the capitalist countries after World War II. However, this article does not fall into the overall plan of this symposium, which is devoted to problems of the essence and functions of the finances of the socialist state, and the finances of the branches of national economy of the USSR. It is our view that in the interests of the unity and illumination of theoretical foundations of the theory of the finances of the socialist state, it would have been proper to limit this collection to articles setting forth

problems of the essence and functions of money and credit under socialism.

FOOTNOTES

- (1) Political Economy Textbook, 3d revised edition. Govt. Printing Office for Political Literature, 1958, p. 594.
- (2) A detailed illumination of the finances of individual branches of the national economy is provided in A. M. Birman's textbook, *The Finances of the Branches of the National Economy of the USSR*. See review of this book in the journal, *Problems of Economics*, No. 2, 1958.

G. Baklanov:

A Book on Methods of Measuring Labor Productivity

A. I. ROTSHTAIN. *Methods of Measuring the Productivity of Labor in Industry*. (Government Printing Office for Statistics, 1957, 136 pp.)

As we know, an increase in the productivity of labor is, in the final analysis, decisive to the triumph of a new social order. In the national economic plans of the socialist state, increase in labor productivity emerges as the decisive condition for the fulfillment of objectives in increase in production, and toward further uplift of the living standards of the people. The major significance of the problems of labor productivity for the socialist method of production provides advance assurance of broad reader interest in economic and statistical literature dealing with these problems. The work by A. I. Rotshtein, *Methods of Measuring the Productivity of Labor in Industry*, published by the Government Printing Office for Statistics, is particularly worthy of serious attention.

The book consists of ten chapters. In the first chapter the author examines the concept of labor productivity, its significance for the solution of the major economic objective of the USSR, and factors involved in increasing labor productivity, and presents data descriptive of the rate of growth of labor productivity in the USSR and in the capitalist countries. The second chapter is devoted to the development and utilization of the technical basis of industry in the interest of increasing labor productivity. The third chapter analyzes the significance of the organization of labor and production for increase in labor productivity. The fourth chapter sets forth theoretical foundations of measurement of labor productivity. The next three chapters are devoted to an examination of various methods of measuring labor productivity: natural and conventional bookkeeping units, price, and actual labor. In the two final chapters the author writes of the experiences acquired in the measurement of labor productivity, and examines government reporting and the methods of analysis of indices of labor productivity.

The book, as indicated in a note, is aimed at industrial personnel, economists, and statisticians, persons active in the Party and in business affairs, and students at economic training schools. The broad scope of the expected readership, having different levels of preparation, requires, more than anything else, a popular method of elucidation. In our opinion, the author has successfully dealt with this problem.

In the various chapters of the book under review, a number of interesting ideas are put forth. Thus in Chapter 3 the author notes that loss of exactly the same amount of

working time, let us say one man hour, is of different significance at different levels of technological development. And he draws from this interesting conclusions on the role of the skill of workers under conditions of rapid rates of technical progress.

In analyzing shortcomings in the price method of analyzing labor productivity, A. Rotshtein points to the fact that it is not possible to keep books on all produce in basic prices. Evaluation of new products in the current prices during the first year of production has as its result that prices of different items are judged on different scales, which are economically not comparable. These prices "are themselves functions of various levels of the social productivity of labor." (p. 73) This fact doubtless diminishes the accuracy of the indices of dynamics of the productivity of labor, and this inaccuracy is the greater, the more rapid the changes in the product being manufactured.

The section on the principle of keeping books on production without considering a given object more than once is of considerable interest. Noting that within the scope of a single enterprise accounting of gross production is free of such multiple considerations, but that multiple consideration of single items does occur within branches of industry and industry as a whole, the author notes that this circumstance is capable of distorting indices of labor productivity, particularly as related to the development of specialization. He draws the conclusion that

"The entry of production into the calculations only once is the sole correct variant of the price method." (p. 83)

The question of the possibility of measuring the productivity of labor by means of indices of pure production is involved in the problem of counting products only once. However, as the author correctly notes, as far as one single enterprise is concerned, the dynamics of pure production, and thereby the dynamics of the calculation on the basis thereof of labor productivity indices, depend in practice not so much on changes in the volume of production and the mass of living labor, as much as upon fluctuations in the relationships between prices for finished products and for the raw materials utilized.

The method of calculating labor productivity in terms of labor as such is given the most detailed presentation by the author. His index is built in accordance with the formula:

$$\frac{\sum Q_1 t_0}{\sum Q_1 t_1}$$

A. Rotshtein claims the following positive features for this method:

"1. In constructing an accounting of the dynamics of labor productivity, only two indices are employed: the number of units of production in actual items, and the amount of labor expended in units of labor time, i.e., also in the natural form.

2. Production is not merely measured, but weighed. In so doing, utilization is made of the only index suitable to measurement of labor productivity: the index of the laboriousness of each type of product within the limits of that segment of social production for which the calculations are being made.

3. The expenditure of working time used to weigh the index has "universality." It is applicable to all types of production, and this is so independent of the degree of readiness; that is, it is applicable to finished products, to semi-finished goods, and to production that has not been completed.

4. The index of working time expended has the property of being divisible into fractions; that is, it may be used to keep accounts for all that was produced in a given period, or only for that produced in a fraction thereof.

5. The method as a whole can be used in principle at all stages of social production." (p. 90)

The author's evaluation of the labor method is no doubt of interest. However, in our opinion, he exaggerates the advantages of this method.

In the first place, in constructing any total index for volume of production, production is not merely "compared" but weighed, and in this respect, indices built on the basis of measurement of labor are not an exception. It is understood, however, that depending upon the method used, each unit of production may acquire a given weight in the overall total. The author holds that the only correct approach is that of reduction of the various types of production on the basis of expenditures of labor per unit of production. This conclusion seems to us to have inadequate theoretical justification.

The author's argumentation comes down to the following:

1. In measuring the productivity of labor "production is regarded not as the mass of use values as a whole, but as an element in the calculation of labor productivity." (p. 65). Consequently, in the author's opinion, there are two different concepts of production: production as such, and production in the calculation of labor productivity; 2. In the index of the volume of production employed to calculate the dynamics of labor productivity "the standard for measurement of production must be not some arbitrary characteristic, but a weight suitable to construction of indices of labor productivity, i.e., it must describe the labor requirement of production." (p. 66); 3. "There is only one method of measuring labor productivity, the method of measuring labor in the natural form. And there are a number of more or less rough substitutes for this... The degree of accuracy of calculations resulting from the use of these approximate methods depends upon the degree of proportionality of the standard of production employed; the true labor requirement for the product." (pp. 98 and 99). From this the conclusion is drawn that "There is only one index of labor productivity; to wit, an index built on an individual basis: it is based on calculation of two funds of expended working time for the same product..." (p. 99). These requirements are satisfied by the overall labor index which is "erected on the basis of an individual natural index, and is merely a variant thereof." (p. 98).

The formula for this index, which is the quotient of the division of the index of volume of production by index of outlay of labor time appears as follows:

I. Productivity of labor =

$$= \frac{\sum Q_1 t_0}{\sum Q_0 t_0} : \frac{\sum Q_1 t_1}{\sum Q_0 t_1} = \frac{\sum Q_1 t_0}{\sum Q_0 t_0} \cdot \frac{\sum Q_0 t_1}{\sum Q_1 t_1}$$

Where Q_1 and Q_0 are the production in natural form in the base period and the period for which the accounting is being made; t_1 and t_0 are the labor requirement for the product in the same periods respectively (p. 89).

Thus, the entire complex problem of measuring the dynamics of labor productivity is reduced by the author to a solution that appears exceedingly simple at first glance: to comparing the expenditures of labor during the base period and the period for which the analysis is being made to the production for the same period. We hold, however, that a problem is a long way from being solved when posed in this way.

To determine the absolute and relative level of saving of living labor expended in the production of comparable products in the period under study is doubtless desirable and necessary at all enterprises. However, in our opinion, a different system of interrelation of indices would be profitable: to wit:

I. Labor Requirement = I. Total outlays of labor

that is $\frac{\sum Q_1 t_1}{\sum Q_1 t_0} = \frac{\sum Q_1 t_1}{\sum Q_0 t_0} : \frac{\sum Q_1 t_0}{\sum Q_0 t_0}$ I. Volume of productive labor

inasmuch as the ratio $\frac{\sum Q_1 t_1}{\sum Q_1 t_0}$ expresses the dynamics not of the volume of production but of the volume of productive labor on the part of the workers, inasmuch as greater or lesser expenditures of living labor per unit of one or another type of production does not at all mean that this unit is larger or smaller by the same number of times than the unit of production of some new type.

Measurement of the dynamics of labor productivity of each given branch of production only on the basis of the index of the economy of living labor appears to us to be inadequate. Economy of living labor may be attained under irrational conditions of expenditure of past labor, and from the social point of view this would mean not an increase but a drop in the productivity of social labor.

Government objectives for raising labor productivity at each enterprise are, as we know, established for the entire output; that which is comparable and that which is not comparable. The author recommends that plants limit themselves to measuring the dynamics of labor productivity in terms only of a comparable group of products, but he does not indicate what changes should, in his opinion, be introduced into the planning of labor productivity, and how to monitor fulfillment of the objectives of the plan.

In studying dynamics of labor productivity for a number of periods, A. Rotshtein recommends a valuable method which, as he writes, "would also provide a more accurate theoretical reflection of the dynamics of labor productivity" (p. 111). Utilization of this method, however, results in violation of the requirement advanced by the author that the indices of labor productivity dynamics be calculated on the basis of comparable production. A convention may be used to illustrate this. Let us assume that for a four year period the following data show up on the labor requirements for products produced by a given enterprise.

Types of products	Labor requirement for these products in man hours			
	1954	1955	1956	1957
A	100	50	—	—
B	200	100	50	—
C	—	—	100	80
D	—	—	—	50

Chain indices of labor productivity constitute:

$$\frac{1955 \text{ r.}}{1954 \text{ r.}} = 2,0; \frac{1956 \text{ r.}}{1955 \text{ r.}} = 2,0 \text{ " } \frac{1957 \text{ r.}}{1956 \text{ r.}} = 1,25.$$

$$\frac{1957 \text{ r.}}{1954 \text{ r.}} = 2,0 \times 2,0 \times 1,25 = 5,0,$$

and this indicates that the productivity of labor has multiplied fivefold. However, in 1957, none of the types of production were manufactured that were produced in 1954: the author has not finally solved the question of the relationship between the indices of the dynamics of labor productivity in a given field of production, and that of industry as a whole. The author advances as one of the most important requirements, that of measurement of labor productivity "if at all possible by a single method at all levels of social production. This principle is not always adhered to and therefore it is absolutely necessary to reduce to unified form the indices for labor productivity obtained on the basis of various methods of measuring it." (p. 61)

In setting forth the positive aspects of the labor method he advances, the author writes that this method as a whole may be used, in principle, at all levels of social production.

However, somewhat later on, he expresses a completely opposing point of view: "Complete unity of methods of measurement of productivity of labor at the individual working stations, in teams, and in enterprises as a whole is impossible." (p. 100). The author regards the best index for labor productivity for a plant to be one calculated as an arithmetical average weighted by the indices of labor productivity in the individual departments. Under these conditions, the production in each department (and consequently, the average output) may be expressed in units differing from units of measurement for production of other departments. A schematic example of calculation of such an index is presented on Page 110. Somewhat earlier (p. 103), A. Rotshtein notes that the overall index for labor productivity for industry as a whole may be plotted on the basis of individual plant indices. The author, as we have already noted, proceeds from the view that there is only a single index of labor productivity based on calculation of two funds of expended labor time for the same product (a simple or a complex one). This index, in its aggregate form, has the following formula

$$\frac{\sum Q_i t_i}{\sum Q_i t_i}$$

Directly related to the aggregate form of this index is the arithmetical index $\frac{\sum t_i T_i}{\sum T_i}$ (under the condition that all the in-

dividual indices (i) are calculated on the basis of a single expression for production and consumption of labor time in the same units). However, the arithmetical index calculated by the author on Page 110 leads, in the aggregate form, to a very peculiar "complex" product, one portion of which is expressed in natural units (pieces, tons, etc.), and the other in rubles.

A. Rotshtein holds that "The index of dynamics and labor productivity within the bounds of an enterprise, when the labor method is employed, is calculated only on the basis of department-wide or team-wide indices in accordance with the scheme of an arithmetical index of relative values weighted by the expenditures of labor time in each team." Thus, as it were, he counterposes the arithmetical index to the aggregate index, and recognized the possibility of the existence not of a single index of labor productivity, but, at the very least, of two. If, under these conditions, there will be produced identical items in several departments or teams, the arithmetical index recommended by the author will be an index of constant composition. However, the aggregate index might also be calculated as an index of variable composition (relative, it will be understood, to the dynamics of labor productivity in the production of each independent item).

Further, the author writes, the problem of measuring labor productivity on the scale of industry as a whole "is solved more or less successfully by the price method, that is, by using an index of volume of production in comparable prices, and an index of outlays of labor time for industry as a whole." (p. 111). However, the question arises: What is the relationship between the arithmetical index recommended by the author and the index of labor productivity calculated on the scale of industry as a whole on the basis of its gross production? The book offers no answer to this question. Nor is it understandable how, under these conditions, one can observe the requirements advanced by the author that labor productivity be measured, where possible, by a single method at all levels of social production.

In A. Rotshtein's book, in our opinion, there is also inadequate clarity on the question of the so-called indices of variable composition and indices of fixed composition. He writes, on Page 99, "There are no differences between the indices of labor productivity of constant composition and of

variable composition. With few exceptions, all indices of constant composition are at the same time indices of variable composition." However, the further presentation convinces the reader of the opposite. Let us assume, the author writes, that the following is the production in pieces of a single type of product in one team day:

	For the base period	For the period for which the report is being compiled
On semi-automatic machinery	200	192
On automatic machinery	5,600	9,600
Total	5,800	9,792

Assuming the composition of the brigade to be constant, the author takes the ratio $\frac{9792}{5800} = 1.688$ as the index of the increase in productivity of the entire brigade. In the literature this type of ratio is called an index of variable composition. The author believes that, with this type of calculation, "No significant changes may be seen between the levels of labor productivities of persons using semi-automatic and persons working on automatic equipment..." And for calculation of changes in the levels of labor productivity "It is necessary to take into consideration the ratio between the labor requirement of the basic production, and the labor requirement for production during the period for which the report is being compiled." Further, he holds that the labor requirement of production during the basic period is 12 minutes when the work was done on semi-automatic equipment, and 0.6 minute when done on automatic equipment. On this basis, A. Rotshtein believes that the mean weighted expenditure of working time per unit of production is, for the base period equal to: $\frac{200 \times 12 + 5,600 \times 0.6}{5,800} = 0.993$ minutes per piece;

while in the reporting period:

$$\frac{192 \times 12 + 9,600 \times 0.6}{9,792} = 0.823 \text{ minutes per piece.}$$

From this the conclusion is drawn that "the productivity of labor of the brigade, calculated on the basis of a labor index, comes to

$$i = \frac{t_0}{t_1} = \frac{0.993}{0.823} = 121\%,$$

i.e., rises by 21% and not by 68.8% as had previously been calculated, without correction for changes in the shares of the product made on equipment of different types." (p. 107).

Thus, along with the previously calculated index of variable composition, the author performs a calculation "in accordance with the schema of a labor index." And this apparatus is supposed to constitute an index of fixed composition. True, instead of an index of fixed composition, the author erroneously calculated the so-called index of structural shifts, inasmuch as the ratio $\frac{0.993}{0.823}$

expresses not the mean variation in output, but the influence of redistribution of production among sectors of production as it affects the overall average output. The index of fixed composition for the given example would be 1.4 (if the formula usually recommended in the literature to calculate it be employed).

One fails to understand why in the following example (pp. 108-109), in using the same "labor method procedure," the author calculates the dynamics of labor productivity for molding in accordance with the formula for a fixed composition index, while for drilling and turning he uses the for-

mula for an index of variable composition; that is, one that proceeds from the average expenditure of labor time on machines different in their output capacity.

Unfortunately, in examining the practice of measurement of labor productivity, A. Rotshtein does not cite a single enterprise where measurement of labor productivity is performed in the fashion recommended in his book. All his points are substantiated by the author only by schematic examples based on arbitrary data. In general, he presents concrete data only on page 133, where he speaks of the results of photographic studies of the work day of a nailmaker, G. I. Rein, at the Pis'menny Plant, and on page 93 where he provides a description of labor outlays for the production of grain in twenty-five state farms in 1936-1938.

In the final chapter, major interest attaches to the complex analysis of factors in labor productivity. Unfortunately, all the schematic examples adduced by A. Rotshtein are plotted on the basis of the assumption that only a single type of product is manufactured.

The book also contains a number of shortcomings of partial significance. Thus, on page 95 the author writes: "In determining the factual time expenditures of essential workers per unit of production or of operation, the time expended by auxiliary workers is distributed among the types of production in accordance with the time expenditure by the production workers. This distribution leads, in practice, to an artificial reduction in the over-all labor requirement for manufacture of the product or the operations using automative equipment, and to a similar artificial increase in the labor requirement for non-automative equipment; inasmuch as the servicing of automated equipment requires relatively greater amounts of time on the part of auxiliary workers."

The author proposes contradictory requirements, as far as the accounting of output is concerned, in the measurement of labor productivity. Thus, he writes on page 61 that it is gross production and not production for the market that has to be calculated; while on page 80 he notes that when the price method of measuring labor productivity is employed "in many instances better results would be obtained from indices of commodity production and not of gross production." On page 124 formulas are advanced for the calculation of interrelated factorial indices and absolute differences, the symbol Σ being employed in both cases. Here, too, by way of illustration, he provides a schematic example where this symbol is not needed.

It appears to us that the organization of his work is not quite successful. The first fifty pages (which constitutes more than one-third the total volume of the book), is devoted to questions having virtually nothing to do with the measurement of labor productivity. It would appear that before one examined methods of measuring labor productivity, it would be necessary to define the very concept of "labor productivity"; which the author does in the first chapter. It was, however, hardly necessary in this work to devote so much attention to questions of the development and utilization of the technical basis for industry and the organization of labor and production. Students at schools of economics acquire this data in studying other disciplines, and practical workers would, governing themselves by the title of the book, seek therein primarily answers to questions which have to do with labor productivity.

The multiplicity of questions posed in the book (although it is rather small in size), have as their result that some of them directly related to the measurement of labor productivity are given inadequate attention. This pertains in particular to the selection of the range of workers for whom labor productivity indices should be calculated (p. 60). Noting that output indices may be calculated for production

workers, for all workers, and for the entire personnel of industrial production, the author writes that comparison of each of these indices with the other would describe the actual relationship between the groups of personnel as compared to the plant relationship. Further, the author notes that observations of the dynamics of labor productivity for entire branches of industry require two indices above all: an index for the output of the production workers of the important departments and an index per worker for the enterprise as a whole. However, why, of the three indices he has named, he deems the least important to be specifically the one which is, to this day, employed both in government planning and in publications on industrial statistics (that is, the index for the average earnings per worker on the payroll), he does not explain, although on the very same page he illustrates with an example in which he calculates mean output per worker on payroll.

Recently, no few variants for indices at the level and dynamics of labor productivity have been suggested. In particular, there is a broad discussion of the problem of the most applicable unit of measurement of working time, and the most useful range of workers to be considered. Unfortunately, A. I. Rotshtein's work does not examine any of these proposals. At the same time, the suggestions the author proposes, which differ to a considerable degree from existing practice, are by no means beyond argument and require careful discussion and practical verification.

A. I. Rotshtein's book is a discussion in its nature. Its significance lies primarily, in our opinion, in the fact that it compels the reader to critical study of the methods of measuring labor productivity now in use, and of those that have been recommended.

A. Volkov and B. Grebennikov:

Soviet-Chinese Economic Collaboration

M. I. Sladkovsky. *Essays on the Economic Relationships between the USSR and China*. Foreign Commerce Press, 1957, 455 pp.

The principle of proletarian internationalism on which are founded the relationships among all countries in the socialist camp and the brotherly Communist and Workers Parties is manifested with particular force in the development of all-round economic collaboration of the socialist countries resting on complete equality, mutual benefits, and truly fraternal mutual aid. A striking example of such relationship is presented by the economic collaboration between the USSR and the Chinese People's Republic.

Until recently, Soviet scientific literature contained no studies dealing with adequate completeness with the economic relationship between the USSR and China. The monograph by M. Sladkovsky reviewed hereunder fills this lacuna to a considerable degree.

The volume consists of eight chapters and a long appendix presenting tables on Soviet-Chinese trade, the texts of treaties and agreements between the two countries, and also a chronological list of the major events in the history of Soviet-Chinese relations. The first four chapters are devoted to questions of Russo-Chinese economic relations prior to the triumph of the great October Socialist Revolution. In examining the history of Russo-Chinese economic relations

for more than three centuries, the author demonstrates the economic and political factors (both external and internal) which had decisive influence at various periods of history on the character and dynamics of Russo-Chinese trade. A most important characteristic of the mutual relations between Russia and China was their joint interest in the exchange of the products of the labor of these two great peoples.

Russo-Chinese economic ties came into being in the seventeenth century, and developed thereafter on the basis of agreements which differed very markedly, in a positive sense, from the treaties with which China was bound by the British colonialists. The author cites, in particular, the following historical facts. During the period when China concluded a treaty based on equality with Russia, the Kyakhty Treaty (1727), the English colonialists of the East India Company strove by armed force to compel the Chinese authorities in the southern portion of the country officially to permit the opium trade which had so depressing an effect upon the Chinese people.

Proceeding to an analysis of Russo-Chinese trade on the eve of the epoch of imperialism, M. Sladkovsky notes that during this historical period there was a serious change in the nature of Russo-Chinese economic and political relationships:

"Under the new conditions, the commercial relationships between Russia and China came to a greater degree to depend not so much on their mutual interests and material possibilities, as upon the international situation that had come into being..." (page 96).

Starting in the 40's of the past century, the international situation in the Far East began to change sharply. England forced upon China the disastrous Nanking Treaty which gave the British freedom to trade in the so-called "open" ports of China; Hangchow, Shanghai, Tientsin, Ningpo, and Fuchow. As a result of this, and also of the possibilities arising for Russian firms to buy Chinese commodities in European ports at lower prices, the traditional Russo-Chinese trade through Kyakhty lost its former significance. However, Russo-Chinese trade began, and proceeded to develop on the frontier between Russia and Sinkiang. However, the developing trade in this district could not significantly aid Russia in overcoming the competition of the European (especially the English) commodities offered in the Chinese market.

As China's dependence upon England grew greater, the export of Russian commodities into China continued to diminish. There were also other reasons for the weakening of Russo-Chinese trade. The author includes among them the economic backwardness of Russia, and primarily the absence of industry in Siberia, and of railways to connect the industrial centers of Russia with the Far Eastern frontiers (page 111).

Further, M. Sladkovsky describes the Russo-Chinese economic relationships from the period from the development of imperialism and the sharpening of the struggle among imperialist powers for the division of China. During this period, England lost its monopoly position in the Chinese Market. The book presents factual material showing the extension of Russia's economic expansion in China at the end of the nineteenth and the start of the twentieth century. Of importance is the fact that Russia began to export into China not so much commodities as capital. In the period from 1895 to 1904, the value of the commodity export was 101.9 million rubles, and the total capital investments by Russia in various branches of the Chinese economy during this period were 563.5 million rubles. At the outset of the First World War, total Russian capital investments in China could be estimated approximately at 925 million rubles (page 158). Despite its financial weakness, Russia was then second

among imperialist countries in the value of its capital investment in China, being preceded only by England.

In the opinion of M. Sladkovsky, the first World War significantly changed the nature of Russo-Chinese trade. The author bases this conclusion on references to the increase in the value of Russian imports from China. He notes also that as a result of the war, there was a weakening of the competition of the European imperialists in the Chinese market. It appears to us, however, that there is no basis for speaking of any serious change in Russo-Chinese commercial relationships during the first World War. The author himself presents data to the effect that Russia's deficit in trade with China was a constant factor prior to and during the first World War. As far as English competition is concerned, her position in the Chinese market was shaken as long ago as the end of the last century. Thus, in our opinion, the nature of Russo-Chinese trade, beginning at the end of the previous century, and up to the formation of the Soviet state, underwent no significant changes.

Prior to the October Revolution, commerce was, in point of fact, the only form of the economic relationship between Russia and China. Analyzing Russo-Chinese economic relationships prior to the triumph of the great October Revolution, the author concludes that the list of items of Russian export to China, as well as the assortment of commodities exported from China to Russia was exceedingly limited. A most important item in Russian import from China was tea; and in Russian export, furs. For a long time, a purely barter system of trade dominated relations between Russia and China.

As a whole, the chapters devoted to the pre-October period of Russo-Chinese economic relationships contain rich material and provide a correct description of the major stages in the development of Russo-Chinese trade. The author merits criticism for the fact that this portion of the book is disproportionately large, and there is a very great number of details of secondary importance. In the preface to his book the author emphasizes that the development of economic relations between the USSR and China is the logical consequence of the many centuries of friendship between these two neighboring people (page 6). This apparently is the reason for the author's interest in the historical traditions of Russo-Chinese trade.

We do not believe this attitude to be completely correct. There can be no doubt that the centuries-long tradition of Russo-Chinese trade relationships played no small role in establishing, and then in reinforcing, a close collaboration between the USSR and China. After the formation of the Chinese Peoples Republic, a fundamentally new economic relationship developed between the Soviet Union and China, based on the Leninist principle of proletarian internationalism.

The success of the great October Revolution opened a very favorable perspective for the development of multifaceted friendly relationships between the USSR and China. During the very first days of its existence, the Soviet government announced the annulment of all unequal agreements concluded between Tsarist Russia and the countries of the East. It renounced territories conquered by the tsarist government in Manchuria, the right of extraterritoriality, and also the indemnities extorted from China under various excuses. No country other than the Soviet Union surrendered its privileges in China.

In examining Russo-Chinese economic relations during the period subsequent to the October Revolution, the author emphasizes the differences in principle between the economic relationship of the USSR and China prior to the triumph of the Chinese Peoples Republic, and Soviet-Chinese

relations subsequent to the formation of the Chinese Peoples Republic. M. Sladkovsky also notes that, prior to the formation of the Chinese Peoples Republic, the government of the USSR carried out consistently the principles of equality and mutual profit in its relations with China, principles that are basic to Soviet foreign commercial policy.

In 1924, the government at Peking met the proposals of the Soviet government, and concluded the Agreement on the General Principles for Regulation of Outstanding Questions Between the USSR and the Chinese Republic. At the basis of this agreement were principles of equality and mutual respect of the sovereign rights of both powers. And this facilitated the development of economic relationships between the USSR and China under mutually profitable conditions. The agreement of 1924 broke the chain of unequal treaties with which China had been bound.

In describing the economic relationships between the USSR and China prior to the formation of the Chinese Peoples Republic, the author directs attention to the fact that these mutual relations were, to a considerable degree, dependent upon the internal political situation in China. During the period of the first civil revolutionary war in China, 1925-1927, the imperialists attempted by all possible means to violate the Soviet-Chinese agreement of 1924 and to isolate China from the USSR. However, they failed to do so. Trade turnover between the USSR and China during the period 1925-1927 increased by 62 per cent (page 218). The Soviet government bought tea, soy beans, oil cake, and vegetable oil in China. In turn, the Soviet Union exported coal, timber, furs, fabrics, and other commodities to China.

When the reactionary wing of the Kuomintang came into power in China, Soviet-Chinese economic relationships were sharply impaired. The numerous provocations launched by the Kuomintang powers against Soviet representatives led to a disruption of diplomatic relationships between the USSR and China. The invasion of Manchuria by Japan in 1931 caused considerable damage to Soviet-Chinese economic relations.

Starting in 1937, Soviet-Chinese relations began to improve once again. The author presents the following facts: In 1938, the USSR advanced to China two loans of 50 million American dollars each, the payment of these loans to be by delivery of Chinese goods over a five year period, and the interest being three per cent. In 1939, China was extended a third loan to the sum of 150 million dollars U.S. The Soviet loans gave China the ability to buy industrial commodities in the Soviet Union, machines, aircraft, and the rest. And the commercial agreement concluded between the USSR and China in June 1939 significantly strengthened the hand of China in its economic dealings with other powers.

Setting forth the content of the treaties of agreements between the USSR and the Chinese Peoples Republic, and evaluating their character and specific features, M. Sladkovsky, in our opinion, provides an inadequately profound and developed analysis of the Leninist principles of foreign policy of the Soviet state. However, an analysis of these principles is essential to explain the nature of the new international (political and economic) relationships among the lands of socialism. It appears to us that it would have been desirable to provide a special section of the book devoted to an examination of the foundations of the foreign policy of the Soviet Union. The author's investigations of the economic relations between the two greatest socialist states in the world is also limited in the aspects it treats. In particular, it would have been desirable to give more attention to the foreign commercial policy of the Chinese Peoples Republic, and to provide a more profound analysis of the potential economic possibilities and objective eco-

omic prerequisites for joint production efforts on the part of the USSR and the Chinese Peoples Republic; and to demonstrate the role and place of economic relationships between the two great socialist countries in the planned distribution of labor through the entire socialist camp.

In describing the social and economic relationships between the Chinese Peoples Republic and the USSR, M. Sladkovsky notes that as early as 1949-1950, the governments of the two countries discussed a broad range of topics and defined the forms of collaboration envisaged in various fields, including the economic field. The author of the monograph provides a detailed examination of the content and significance of the Soviet-Chinese Treaty of Friendship, Union, and Mutual Aid. Of high significance to the strengthening of the economy of the Chinese Peoples Republic is the agreement between the government of the USSR and the Central Peoples Government of China to extend a credit, the sum of 300 million dollars US, to the Chinese Peoples Republic. This credit was larger than any credit ever given to China by foreign powers, and its terms were exceptionally favorable (one per cent per year).

In M. Sladkovsky's monograph there is a presentation of materials having to do with Soviet-Chinese agreements relative to the work of Soviet specialists in the Chinese Peoples Republic. However, the unique nature of the Soviet technical economic aid to China is nevertheless not completely disclosed. In general, the book suffers the shortcoming of a certain onesidedness in the elucidation of Soviet-Chinese economic relationships. The center of the author's attention is occupied chiefly by the questions of development and structure of trade turnover. He gives inadequate attention to other forms of economic relationship.

Emphasizing that the USSR has in recent years accounted for more than 50% of China's total foreign trade, the author adduces absolute figures, hitherto not published in our press, on commerce between the USSR and the Chinese Peoples Republic (in millions of rubles).*

As the table shows, Soviet-Chinese trade turnover in 1956-57 was more than twice that of 1950. The figures adduced bear witness to the existence of notable fluctuations in the development of commerce. For example, in 1957 the volume of trade turnover was lower than in the previous year. In the last two or three years, significant changes are observed in the relation between export and import. In our opinion, a more profound analysis should have been presented of the reasons for these changes and for perspectives of Soviet-Chinese trade, with due consideration of the economic progress of both countries.

In examining the forms of the Soviet economic and technical aid to China, M. Sladkovsky writes that during the period of rehabilitation of the economy of the Chinese Peoples Republic (1950-1952), Soviet exports consisted chiefly of industrial equipment. Subsequently, significant changes were to be found in the structure of Soviet exports to the Chinese Peoples Republic due to the victories of socialist industrialization in China. Starting in 1953, the Soviet Union delivered complete equipment to the Chinese Peoples Republic for industrial projects built and now building in the Chinese Peoples Republic.

As noted in the Chinese press, the Soviet Union is shipping equipment for 211 major industrial enterprises in the construction of which it is participating. Its shipments total 70% of the overall equipment. More than 60 such enterprises are already in operation.

The technical aid given by the Soviet Union in the erect-

* For the data for 1956-1957 see, *Foreign Trade of the USSR for 1957, A Statistical Review*, Foreign Trade Press, 1957, p. 9.

	1950	1952	1954	1956	1957
Export from the USSR to China	1,552.8	2,200.1	3,037.2	2,932.1	2,176.4
Import into USSR from China	765.1	1,655.0	2,313.4	3,056.9	2,952.5
Total turnover	2,317.9	3,855.1	5,350.6	5,989.0	5,128.9

and reconstruction of 211 industrial projects, we find in the journal *Friendship*, is very multifaceted. It begins at the very earliest and ends at the very final stages of construction, and also embraces fields such as the selection of sites for future enterprises, the drafting and delivery of equipment and its assembly, the training of skilled personnel, the provision of industrial raw materials required by new types of production, the testing of equipment, and even mastering the production of new types of products.*

The author of the monograph under review examines the question of mutual exchange of scientific and technical achievements, and of progressive industrial and scientific experience, which is underway in accordance with the special agreement signed by the USSR and Peoples China, October 1954. He notes that the scientific and technical collaboration of the Soviet Union and China is becoming ever wider in scope. Direct contact has already been established between Soviet and Chinese research institutions, including the Academy of Sciences of the Soviet Union and the Academy of Sciences of the Chinese Peoples Republic. With the assistance of Soviet scientists, the Academy of Sciences in China has this past year developed a twelve-year long range plan for the development of science in the Chinese Peoples Republic. At the end of 1957 and the beginning of 1958, Soviet-Chinese discussions took place in Moscow on the further development of scientific collaboration between the USSR and China. The discussions were completed by the signing of a corresponding agreement.

The experience of the years gone by, the author emphasizes, confirms beyond contradiction that close collaboration of two great socialist powers is a major factor in the development of their economies, and in the strengthening of the entire camp of peace and socialism. The geographic closeness of the Soviet Union and China to each other, and the presence of convenient transport routes makes for efficient realization of trade, of scientific and technical, and of other types of collaboration. The common boundary creates conditions for joint utilization of natural resources in the interests of both countries, and of rational distribution of industrial production. And this assures that the national economic plans of the two countries will be coordinated.

Soviet-Chinese collaboration makes it possible for the Chinese Peoples Republic and the USSR to make fuller uses of their resources for production and of raw materials, and rapidly to develop commerce; and thereby to elevate the living standards of their peoples.

The volume under discussion is a detailed investigation of the entire complex of Russo-Chinese and Soviet-Chinese economic relationships. It is necessary, however, to note that many divisions of the book are overloaded with historical details having no direct relationship to the main theme. The author should have given more attention to theoretical generalizations, and in particular should have shown the significance of economic relations between China and the USSR for the prospects of the economic development of the entire camp of socialism. Nevertheless, M. Sladkovsky's work, containing rich materials, will doubtless be used

by both specialists and by broad groups of readers who are interested in the development of the economic collaboration between the Soviet and the Chinese peoples.

New Economic Literature Published in the German Democratic Republic

HELMUT KOZIOLEK. *Grundfragen der marxistisch-leninistischen Theorie des Nationaleinkommens. Sozialismus.* Verlag "Die Wirtschaft", Berlin 1957, 136 S.

HELMUT KOZIOLEK. *Basic Questions of the Marxist-Leninist Theory of National Income. Socialism.* "Die Wirtschaft" Publishing House, Berlin 1957, 236 pp.

The work analyzes changes in the relative importance of the various social sectors and branches of the economies of socialist countries as contributors to national income, and also outlines a method for computing national income and examines factors involved in its growth, such as the rationalized organization of international division of labor. The book further explores the processes of the distribution and redistribution of national income, its final utilization, and the correlation between accumulation and consumption.

Koziolek demonstrates the superiority of the socialistic economic system over the capitalistic by comparing data on the rates of growth in the national incomes of the Soviet Union and the peoples democracies with corresponding data on the USA and other capitalist countries. The author criticizes the bourgeois theory of national income.

GDR-300 Fragen, 300 Antworten. Verlag "Die Wirtschaft", Berlin 1958, 208 S.

GDR-300 Questions, 300 Answers. "Die Wirtschaft" Publishing House, Berlin 1958, 208 pp.

The book was prepared by the Committee for the Unification of Germany. It is a popular reference work which, through questions and answers, casts light on the socio-political, economic and cultural life of the GDR. Extensive treatment is given to the economic policies of the workers and peasants state and to the outstanding role of the socialist sector in the national economy. The book contains facts showing the growth of industrial production, the development of agriculture and the rising prosperity of the workers in the GDR.

HANS SCHOENHERR, *Die Rohstoffbasis der Industrie der Deutschen Demokratischen Republik.* Verlag "Die Wirtschaft", Berlin 1957, 124 S.

HANS SCHOENHERR, *Industrial Raw Material Sources in the German Democratic Republic.* "Die Wirtschaft" Publishing House, Berlin 1957, 124 pp.

The author examines problems of the supply of raw materials to various branches of heavy and light industry in the GDR, analyzes the raw materials balance of industry and its structure. The book goes into the prospects for the development of industry in the GDR with regard to the improved utilization of raw materials, and gives a brief account of the natural resources of the countries of the socialist camp and of the countries in the East which have

* "Friendship," No. 6, 1957, p. 14.

undertaken their own independent path of development.

ALFRED LANGE, Die Investitionen in der volkseigenen Industrie der Deutschen Demokratischen Republik im ersten Planjahrfuenft. Verlag "Die Wirtschaft," Berlin 1958, 192 S.

ALFRED LANGE, Capital Investment in the Peoples' Industry in the German Democratic Republic during the First Five Year Plan. "Die Wirtschaft" Publishing House, Berlin 1958, 192 pp.

The book examines the economic content of capital investment and its function in the process of reproduction. It explains the planning and organization of capital industrial construction in the republic during the first five year plan, analyzes indices of the economic effectiveness of capital outlays and advances a series of proposals aimed at the improvement of investment planning and supervising its execution.

ERHARD KNAUTHE, Oekonomischer Nutzen und Finanzierung von Investitionen in der volkseigenen Industrie. Verlag "Die Wirtschaft," Berlin 1958, 206 S.

ERHARD KNAUTHE, The Economic Utilization and Financing of Capital Investment in the People's Industry. "Die Wirtschaft" Publishing House, Berlin 1958, 206 pp.

Knaute's book is divided into four headings. The first heading analyzes the concept of the basic fund and describes the importance of the financial autonomy of enterprises for the replacement of exhausted basic funds. Under the second heading the author examines problems of the economic utilization of capital investments in industry. The third heading discusses the evaluation of the economic utilization of specific objectives of capital investment in industry. The fourth heading goes into aspects of capital investment financing.

MICHAEL MILLER, Automatisierung. Wohlstand oder Elend? Verlag "Die Wirtschaft," Berlin 1957, 112 S.

MICHAEL MILLER, Automation. Prosperity or Poverty? "Die Wirtschaft" Publishing House, Berlin 1957, 112 pp.

The author employs concrete examples to show the social consequences of automation under capitalism and criticizes the position of the rightist leaders of West-German social democracy on the so-called "second industrial revolution." The brochure discusses the significance of the automation of the processes of production in a socialist society.

GERHARD RICHTER, Grundfragen der Arbeitsproduktivitaet und ihrer Messung. Ein Leitfadener fuer die Praxis. Verlag "Die Wirtschaft," Berlin 1958, 118 S.

GERHARD RICHTER, Fundamentals of Labor Productivity and its Measurement. A practical guide. "Die Wirtschaft" Publishing House, Berlin 1958, 118 pp.

The brochure analyzes the economic law of the continuous growth of labor productivity in a socialist society, indicates untapped labor productivity potential in enterprises and on the national economic level, and various methods for the measurement of labor productivity. In particular, the author gives special attention to the measurement of labor productivity based on net production (gross production minus raw materials costs and other monetary expenses).

Grundriss der Volkswirtschaftsplanung. Herausgeber Prof. Dr. Johannes Rudolph und Dr. Gerd Friedrich. Verlag "Die Wirtschaft," Berlin 1957, 604 S.

Outline of National Economic Planning. Edited by Prof. Dr. Johannes Rudolph and Dr. Gerd Friedrich. "Die Wirtschaft" Publishing House, Berlin 1957, 604 pp.

This collective work on national economic planning in the GDR contains a concise description of the basic stages in the development of planning in the national economy of the GDR: the beginnings of planned guidance of the national economy

(1945-46), preparations for long-term planning (1947-48), the two-year plan for rehabilitation of the national economy (1949-50), the laying of the foundations of socialism in the GDR during the first five-year plan (1951-55); it also discusses aspects of national economic planning during the second five-year plan (1956-60). The book outlines the structure of the national economic plan and the system of its basic indices, the meaning of long-term plans and the method of drafting them, the structure and functions of central and local planning agencies, and also the organization of plan fulfillment verification. The book devotes considerable space to a description of planning in the various branches of the economy. Individual chapters are devoted to aspects of planning for capital investment and the dissemination of new techniques, for materials supply and labor recruitment, and also of unit cost and price planning. The book is concluded by a chapter on the national economic balance sheet.

ERHARD KNAUTHE, Der Finanzplan des volkseigenen Industriebetriebes. Dritte, ueberarbeitete und erweiterte Auflage. Verlag "Die Wirtschaft," Berlin 1957, 168 S.

ERHARD KNAUTHE, The Financial Plan of the Individual People's Industrial Enterprise. Third edition, revised and enlarged. "Die Wirtschaft" Publishing House, Berlin 1957, 168 pp.

The work discusses the importance of the financial plan of the individual industrial enterprise, how the financial plan contributes to the release of the enterprise from dependence on state financing, and the correlation between the financial plan and other constituent parts of the enterprise operational plan.

WOLFGANG SICHER, Zur Planung technisch-organisatorischer Massnahmen und Berechnung ihres oekonomischen Nutzeffektes. Verlag "Die Wirtschaft," Berlin 1957, 172 S.

WOLFGANG SICHER, On the Planning of Technical-Organizational Measures and the Determination of their Economic Effectiveness. "Die Wirtschaft" Publishing House, Berlin 1957, 172 pp.

The work discusses aspects of the planning and execution of measures for the improvement of production techniques and organization, the better utilization of available productive capacity, to increase labor productivity and reduce production costs. The author brings out the connection of the plan for technical-organizational measures with other plans of the enterprise and with the collective agreement (between labor and management, according to the Soviet definition. Transl.). The book expounds the method of drafting a plan of organizational-technical measures. The author dwells extensively on the determination of the economic effectiveness of technical-organizational measures. The material presented is a generalization from the experience of machine-tool and transport machinery manufacturing enterprises.

JOSEF ORLOPP, Eine Nation handelt ueber Zonengrenzen. Streifzug ueber die Geschichte des innerdeutschen Handels. Verlag "Die Wirtschaft," Berlin 1957, 139 S.

JOSEF ORLOPP, A Nation Trades Across Zone Boundaries. A Review of the History of German Internal Trade. "Die Wirtschaft" Publishing House, Berlin 1957, 139 pp.

The book discusses the history of the development of German internal trade since 1945. The author unmasks the policies of the West-German government and the Western powers aimed at thwarting German domestic trade and deepening the German schism. The book shows how the German Democratic Republic has been tirelessly striving for a free and unobstructed exchange of goods between the GDR and FRG and notes the efforts of West German business circles to expand intra-German trade. An appendix presents important documents illustrating the development of intra-German trade.

KARL-HEINZ PAVEL, Formen und Methoden der Rationalisierung in Westdeutschland. Verlag "Die Wirtschaft", Berlin 1957, 80 S.

KARL-HEINZ PAVEL, Forms and Methods of Industrial Rationalization in West Germany. "Die Wirtschaft" Publishing House, Berlin 1957, 80 pp.

The brochure discloses the nature and purposes of capitalist rationalization in West German industry. The author shows the consequences of capitalist rationalization: the intensified exploitation of the working class, a rise in the accident rate and in the incidence of occupational diseases, the growth of unemployment, etc. An appendix is included, containing data on capitalist rationalization methods and their consequences.

EVA MUELLER, Zur materiellen Lage der Industriearbeiter Westdeutschlands. Verlag "Die Wirtschaft", Berlin 1957, 184 S.

EVA MUELLER, On the Material Situation of Industrial Workers in West Germany. "Die Wirtschaft" Publishing House, Berlin 1957, 184 pp.

The book presents materials showing how the exploitation of the workers has been intensified and the profits of monopolistic capital have risen in West Germany, how labor is being driven more intensely and the work-day lengthened. The book sheds light on the economic struggle of the working class in the FRG against worsening living conditions and intensified exploitation.

PETER HESS, Oekonomische Grundlagen der laendlichen Klassen in Westdeutschland. Verlag "Die Wirtschaft", Berlin 1957, 224 S.

PETER HESS, The Economic Foundations of the Rural Classes in West Germany. "Die Wirtschaft" Publishing House, Berlin 1957, 224 pp.

The author discusses the concentration of production in agriculture and gives a description of the rural class structure in capitalist countries and of the impoverishment and ruining of peasants with small and medium sized holdings.

The author criticizes various bourgeois concepts of the "improvement of the agricultural structure", "advantages of the small farm" and others. The book also criticizes the Social-Democratic agrarian program.

GUSTAV VOGEL, Agrarpolitik der Monopole. Die Rolle der Landwirtschaft in den imperialistischen Plaenen der Monopole in Westdeutschland. Verlag "Die Wirtschaft", Berlin 1957, 216 S.

GUSTAV VOGEL, Agrarian Policy of the Monopolies. The Role of Agriculture in the Imperialistic Plans of the Monopolies in West Germany. "Die Wirtschaft" Publishing House, Berlin 1957, 216 pp.

In the first section of the book, the author criticizes the methods contemplated by bourgeois theoreticians to resolve the agrarian crises within the capitalist economic framework. The second section discusses the relation of land ownership and cultivation in the FRG, problems involved in discrepancies between the prices of agricultural and manufactured products, the consequences for agriculture of the foreign trade policies of the monopolies, etc. In the third section, the author describes the conditions of life of the West German peasant workers.

WERNER KALWEIT, Ueber die Ursachen der Preissteigerung im modernen Kapitalismus. Verlag "Die Wirtschaft", Berlin 1958, 140 S.

WERNER KALWEIT, Why Prices Rise under Present-Day Capitalism. "Die Wirtschaft" Publishing House, Berlin 1958, 140 pp.

The brochure discusses the pricing mechanism under capitalism, especially in its monopolistic state. Analyzing the causes of price rises as influenced by imperialism, the author describes the nature of monopolistic prices, the forms of speculative price-rigging, governmental price control methods applied in the interests of the monopolies. The author gives special attention to an analysis of the social consequences of price rises as brought about by imperialism.

The Rising Prosperity and Cultural Standards of the Workers in the Peoples Democracies

The socialist economy of the peoples democracies guarantees the steadily rising prosperity and cultural standards of the workers in these countries.

National income data are the most inclusive index of the economic development of the economy and of the degree to which the standard of living of the population has improved. The radical difference between the socialist and the capitalist methods of production is strikingly brought out in the creation, rate of growth and distribution of national income in the peoples democracies.

We present data on the relative importance of the socialist sector as a source of national income in several peoples democracies (see Table 1 at end of article).

The socialist economic system, socialist relations of production permit the peoples democracies to increase their national incomes at a rapid rate which is beyond the capacities of a capitalist economy. Thus, the aggregate volume of national income of the European peoples democracies was more than doubled by 1957 as compared with pre-war levels. In the Chinese Peoples Republic and in other peoples democracies of Asia, national income soared by comparison with the pre-war period (see Table 2).

In Rumania the 1956 national income figure was 2.5 times greater than the 1948 figure and about double the amount for 1938. Per capita national income in 1957 had increased beyond the figure for 1938 by 76 per cent.

As a result of the socialist industrialization of the peoples democracies, an ever increasing part of their national incomes is being produced in the area of industrial production. In 1956, industry's share in national incomes comprised: in Poland—about 49 per cent, in Czechoslovakia—62 per cent, in the GDR—57.5 per cent, in Hungary—64 per cent, in Rumania—46 per cent, in Bulgaria—49.2 per cent, and in the Korean Peoples Democratic Republic—40 per cent. In the Chinese Peoples Republic, the share of industry in the creation of national income rose from 18 per cent in 1952 to 26.4 per cent in 1956.

The distribution and utilization of national incomes has undergone radical alteration. In the peoples democracies, almost all the national income belongs to the workers. The portion of the national income consumed by vestiges of the exploiting classes (kulaks and others) is negligible. The export of part of the national income as profits of foreign monopolies was brought to a stop with the accession of the peoples governments.

The growth of the fund for consumption parallel to the growth of the fund for accumulation is characteristic for the peoples democracies. If, in the Polish national income, the fund for consumption in 1949 is taken as equivalent to 100, then by 1957 it had already risen to 199.1. In Bulgaria, the fund for consumption rose by 46.4 per cent between 1952

and 1955, and in the GDR by 80 per cent between the years 1950 and 1957.

Starting with the years 1953-54, the distribution of national income in the European peoples democracies underwent several corrective alterations. The considerably rapid rise of national income permitted these countries to spend more money on the satisfaction of the needs of the workers without jeopardizing the continued development of industry and agriculture. The rate of consumption gradually overtook and exceeded the rate of accumulation, although the absolute figure for the fund of accumulation not only did not decline, but even continued to rise.

In the peoples democracies, the fund for consumption encompasses both personal and social consumption. During the early years of the peoples democratic governments, a considerable growth was observed in social consumption. At the present time, personal consumption is growing at a more rapid rate. The peoples democracies are allocating more means from the fund for consumption first of all to the development of public health, education, etc. The fund for personal consumption is increasing with the expanded productive activity of the population, the rise in the real wage earnings of workers and employees and of peasant incomes. In Poland, personal consumption rose by 59.5 per cent between 1949 and 1955. Per capita personal consumption in Czechoslovakia in 1956 was 1.5 times greater than in 1937. In Hungary it was 33 per cent greater than in 1949. In the GDR, personal consumption rose by 77.5 per cent between 1950 and 1957.

About three quarters of the national income is allocated in Rumania and Albania for consumption purposes. In the GDR, 91.5 per cent of the total national income was set aside for consumption in 1955, 88.4 per cent in 1956 and 81.2 per cent in 1957, of which for personal consumption 81.2 per cent, 78.3 per cent and 77.9 per cent in the same order (see Tables 3 and 4).

The total liquidation or sharp reduction of unemployment is one of the most important achievements of the peoples democratic system. Up to the second world war unemployment had risen to immense proportions in the countries which today are peoples democracies. In Poland, for example, there were 457,000 persons officially registered as unemployed in 1938 (exclusive of the partially unemployed). In Czechoslovakia 400,000 were counted as unemployed in 1937 and, during the years of crisis, more than 900,000. As a result of the low rate of industrial development in most of the countries which have now set out on the road of socialist development, the migration to the countryside assumed considerable proportions. In Poland, more than 8 million persons migrated to rural areas, and several millions did the same in Rumania. In Hungary, 800,000 agricultural workers had neither land nor households. According to figures that are far from complete, over 3 million persons, unable to find employment in their native countries, emigrated between 1920 and 1939 from Poland, Czechoslovakia, Rumania, Bulgaria and Hungary.

Socialist industrialization in the peoples democracies makes possible an uninterrupted growth in production, and an increase in the number of workers and employees engaged in the national economy. The rate of increase is most rapid in the number of those employed in industry and construction. (see Table 5).

Women are employed in all branches of the economies of the peoples democracies. In 1957, women comprised more than 13 per cent of all workers and employees active in

* The review has been compiled from reports to the Central Statistical Administration from the peoples democracies, from statistical reference works and periodicals from these countries. Some of the data on the economies of the peoples democracies has been computed by the Institute of Economics of the USSR Academy of Sciences.

national economy of the Chinese Peoples Republic, 28 per cent in Albania, one third in Poland and Hungary, more than one third in Czechoslovakia and the GDR, etc. Conditions have been created in all these countries which facilitate the participation of women in community work: creches, children's playgrounds, public dining halls, etc., have been organized.

Working conditions have been radically changed in the peoples democracies. Workers and employees now work an eight-hour day and receive equal pay for equal work; improvements are being introduced in personal hygiene and public health; jobs, especially strenuous and labor-consuming ones, are being mechanized; leave with pay has been introduced for workers and employees; and the workers take an active part in deciding on questions of enterprise operations. The basic field jobs have been mechanized on the agricultural cooperatives. During 1956-1957 measures were taken to shorten the work week in a number of peoples democracies.

One of the most important indices of the increased material prosperity of the workers is the growth in their incomes. Since the income of exploiter class vestiges in the peoples democracies is now extremely small and is gradually being reduced to nil, the prosperity level of the popular masses in these countries is directly dependent on the scale of socialist production.

As labor productivity rises in the peoples democracies, the general and individual wage level also rises for workers and employees (see Table 6).

In the Chinese Peoples Republic, the wages of workers and employees at state industrial enterprises had by 1952 already exceeded the 1949 level by 1.5-2 times. During the years 1953-1956 industrial wages in the CPR again rose by one third. Monetary wages of workers and employees in the Korean Peoples Democratic Republic were 2.3 times higher in 1956 than in 1949; in 1958 they rose another 10 per cent.

Wages comprise a large proportion of the over-all incomes of workers and employees in the peoples democracies. However, many of the material and cultural needs of the workers in these countries are filled from the fund for social consumption, as is borne out by the figures in Table 7.

Leave with pay, pension provisions and social insurance have been introduced in the peoples democracies. The workers are granted accommodations free of charge at houses of rest and sanatoriums: most students received state stipends; free education at schools is being accomplished; measures are being implemented to improve the qualifications of workers. All this substantially increases the wage incomes of the workers. In the Chinese Peoples Republic, for example, state outlays for labor insurance, medical services to the public and cultural-educational purposes in 1953-1956 comprised about 13 per cent of the yearly wage fund. The workers pay much less by far for living quarters and community services than before the war: at the present time, these expenses do not exceed 5 to 8 per cent of their wages.

As a result of increased agricultural production and the introduction of a series of economic measures (the lowering of farm taxes, the reduction and abolition of compulsory deliveries, the raising of purchase prices on farm produce, etc.), peasant incomes are steadily rising in the peoples democracies. In the Chinese Peoples Republic, the actual incomes of individual farms rose by 10.7 per cent between 1952 and 1956. The monetary income of the Polish peasant increased by about 18 per cent between 1956 and 1957, and in Czechoslovakia by 47 per cent over the last three years. The per capita real income of the Hungarian peasantry rose

by 20.5 per cent during the years 1949-1956. In Albania, peasant incomes rose by 35 per cent during the period of the first five year plan (1951-55). In the Korean Peoples Democratic Republic after deduction (in the years 1954-1956) of the peasants' indebtedness for taxes in kind and for loans alone, there remained a profit for them of 90,000 tons of grain and Hwan 1.4 billions in currency. In the Mongolian Peoples Republic, the incomes of the Arats [free nomads. Transl.] and members of farm unions in 1957 were 60 per cent higher than in 1952.

Prices of foodstuffs and manufactured goods have undergone several reductions in the peoples democracies. Thus, as a result of lower prices, workers' incomes in the KPDR increased by 34 billion Hwan between 1953 and 1956. In Czechoslovakia the per capita gain from reductions of retail prices, effected in the years 1953-1956, was Kcs. 1,141. As a result of six successive price reductions over the years 1953-1956, the purchasing power of the Bulgarian population increased by 39.7 per cent. A reduction of retail prices effected in the GDR on July 7, 1958, devolved to the profit of the population in the amount of 400 million marks per year (see Tables 8, 9 and 10).

As a result of measures taken by the Communist and workers parties and the governments of the peoples democracies, the real wages of workers and employees have by far exceeded the pre-war level. They were 30.8 per cent higher in Czechoslovakia and 25 per cent higher in the GDR than in 1937, in Hungary 40-50 per cent higher than in 1938, etc. Real incomes of workers and employees in the Chinese Peoples Republic rose by 25.3 per cent between 1952 and 1956. During the years 1950-1957, the real wages of workers and employees in Rumania had climbed by 48 per cent, by 70 per cent in Bulgaria during the years 1953-1957, by 20 per cent in Albania during the years 1951-1955. In the Mongolian Peoples Republic, the real wages of workers and employees in 1957 were 40 per cent higher than in 1952. In the KPDR in 1957 the real wages of workers and employees had become 1.3 times greater than the 1949 level.

A breakdown of family budgetary outlays gives a clear picture of the living conditions of the workers in the peoples democracies.

As can be seen from the figures present in Tables 11, 12 and 13, workers' families in the European peoples democracies apply about 50 per cent of all expenditures for goods and services on food, from 13 to 24 per cent on clothing and footwear, and 6-9 per cent on rent, heating, lighting and furniture.

The production of consumer goods is steadily rising in the peoples democracies as a result of the predominant growth of heavy industry. The increased incomes of workers and their correspondingly intensified purchasing demands, and the expanded output of consumer goods ensure the growth of retail commodity turnover (see Table 14).

Commodity turnover in state and cooperative trade in the Korean Peoples Democratic Republic for 1957 was almost triple the figure for 1949.

The state and cooperative sectors are decisive contributors to retail commodity turnover in the peoples democracies. State, cooperative and state-capitalist trade accounted in 1955 for about 70 per cent of all commodity turnover in the Chinese Peoples Republic. State and cooperative trade included almost all commodity turnover in Poland, Czechoslovakia, Hungary, Rumania and Bulgaria.

The populations of the peoples democracies are making steadily increasing use of foodstuffs and industrial products, while the structure of goods consumption has been improving both as a whole and with special regard to foodstuffs (see Tables 15, 16, 17, 18, 19, 20, 21 and 22).

Czechoslovakia has outstripped Italy, the Netherlands and Norway and has reached the level of the Federal Republic of Germany in the average per capita consumption of meat; it has moved ahead of Belgium, the FRG, France and Austria. Czechoslovakia has surpassed the FRG and Switzerland in meat consumption per worker family.

The consumption by the population of foodstuffs and industrial goods had in 1957 increased by 20-22 per cent over the 1955 figures.

In 1953 each member of a worker family received an average of 4.59 meters of fabric and 1.42 pairs of footwear and, in 1957, 9.52 meters and 2.13 pairs respectively.

The Communist and workers parties and governments of the peoples democracies are displaying great concern to secure living quarters for the workers; the volume of residential construction is growing from year to year. (see Table 23.)

Residential construction has assumed large-scale proportions in the Chinese Peoples Republic. Floor space for one million persons was released for use in 1952 alone. During the first five year plan period (1953-1957), 73 million square meters of floor space were released for occupancy.

In the Korean Peoples Democratic Republic, 28 million square meters of residential floor space, over 5 thousand schools, 1 thousand hospitals and 260 theaters and movie houses were destroyed during the first year of the liberating struggle of the Korean people against the American imperialists. By 1958, thanks to heavy capital investments carried out at the expense of the state, about 15 million square meters of residential floor space and 5.5 thousand schools were rebuilt in the KPDR, and all medical establishments were restored and expanded.

Great attention is paid in the peoples democracies to safeguarding the health of the workers: the network of hospitals, dispensaries, rest homes and children's nurseries is being expanded, and the number of physicians and other public health workers is increasing. As a result of the rising standard of living of the population, the birth rate is rising and the sick and mortality rates are declining (see Tables 24, 25 and 26).

The public health services have been greatly expanded in the Chinese Peoples Republic. At the present time every district in the country has its own hospital. Polyclinics have been opened at many industrial enterprises. The peasants have erected polyclinics on a cooperative basis in almost every sian.* The figure for medical personnel in the CPR, including physicians employing the methods of Chinese medicine, totals 600 thousand.

A genuine cultural revolution is being accomplished in the peoples democracies. The most important step being taken by the peoples democratic governments is the elimination of illiteracy. According to censuses taken prior to the establishment of the peoples democratic system, 4.1 per cent of the population in Czechoslovakia was illiterate, 6 per cent in Hungary, 23 per cent in Poland and Rumania, 31.4 per cent in Bulgaria and about 80 per cent in Albania. Illiteracy in the rural areas of China reached 90 per cent. In colonial Vietnam only 5 per cent of the population was literate.

In the European peoples democracies, illiteracy has been liquidated as a mass phenomenon among the population up to age 50. Dozens of millions of persons have already learned to read and write in Peoples China. Illiteracy is being liquidated in the KPDR and in the Democratic Republic of Vietnam. Preparations are currently being made in

* The sian is an administrative unit embracing several villages.

the KPDR for the introduction of universal seven-year education. One out of every seven persons is now studying in the Mongolian Peoples Republic and there are 18 persons with secondary and higher educations for every thousand persons.

Peoples democratic rule has annihilated the monopoly on education of the propertied classes. The schools have become accessible to all the workers. In the Chinese Peoples Republic 2.5 times as many children were enrolled in the elementary and secondary schools of general education during 1955/56 than prior to the victory of the peoples democratic revolution. The higher and specialized education of cadres is steadily improving. From 2 to 3 times as many students are receiving instruction in institutions of higher learning [VUZ's, or colleges—transl.] in the peoples democracies than during the pre-war period. The children of workers and peasants comprise the bulk of the students.

Before World War II Albanian schools of general education were giving instruction to 56.6 thousand persons—they now educate 180 thousand. There were no VUZ's in Albania prior to the establishment of peoples democratic rule; now 2.5 thousand students are being trained in Albanian VUZ's.

In the KPDR during 1955/56, 1,462 thousand persons were enrolled in elementary schools, more than 400 thousand in secondary schools and, in VUZ's, about 30 thousand persons.

Enrollments in schools of general education in the MPR reached 95 thousand in 1957, in technical schools—4.5 thousand and in VUZ's, 3.2 thousand.

Student enrollments in the DRV in 1956 had grown by comparison with 1939; from 169 thousand to 853 thousand in elementary schools, from 3.1 thousand to 99.8 thousand in secondary schools, from 0.4 thousand to 9 thousand in vocational schools, and from 0.7 thousand to 3 thousand in VUZ's.

As a result of school democratization in the peoples republics, a unified curriculum of general education was drawn up for all citizens. Thousands of school buildings have been erected in these countries since they came under peoples rule. A large network of teachers' schools has come into being. There has been a significant increase in the number of technical schools training specialists for industry and agriculture. Special VUZ-preparatory courses have been set up for workers and peasants. The practice whereby workers pursue studies while holding down full-time jobs in production has become widespread. (see Table 27.)

In addition, hundreds of young men and women have been sent from the peoples democracies to VUZ's in the Soviet Union. At the present time more than 12 thousand undergraduate and about 1.5 thousand post-graduate students from sister countries are receiving instruction in VUZ's in the Soviet Union.

The peoples democracies have already outstripped many capitalist countries in regard to higher education. Thus, one out of every 185 persons in Poland is a student and one out of every 180 in Bulgaria, whereas in France, the ratio is 1 to 500, in England it is 1 to 526 and 1 to 833 in Turkey. More people are being awarded engineering degrees per million population in Hungary than in all capitalist countries, including the USA.

Scientific development is the object of great attention in the peoples democracies. A large number of scientific research institutes have been set up in these countries. The network of institutions for cultural enlightenment is expanding.

In comparison with 1949, the number of theaters in the Chinese Peoples Republic has doubled and the number of motion picture houses has increased six times. There are now three times as many theaters in Poland than before the

war, five times as many in Rumania and three times as many in Bulgaria.

Before the war there was not one single theater in Albania. Five professional theaters have been set up here during the post-war years. In addition, there are over a thousand amateur groups.

Before the war, many peoples democracies did not have motion picture studios of their own, and primitive motion picture theaters were opened in only a few cities. During the years since the socialist system has been established in these countries, modern motion picture industries have come into existence, securing release to the public of high artistic and intellectual quality. The number of motion picture theaters and viewers is increasing yearly.

Radio broadcasting and television are advancing at a rapid rate in the peoples democracies.

Books, newspapers and journals are being published in immense editions (see Table 28).

The growth of education, science and culture in the peoples democracies contributes to the increased productivity of labor in all areas of national economy, to expanded production and, thereby, to an improved standard of living for the workers of these countries.

Socialism is giving ocular proof of its indisputable superiority over capitalism. Under the leadership of the Communist and workers' parties, the workers of the peoples democracies are striving for the continued mighty growth of their national economies, for a steady rise in their material and cultural standards of living.

Department on the Economies
of the Peoples Democracies
Institute of Economics of the Academy
of Sciences of the USSR

GLOSSARY FOR SURVEYS SECTION FOLLOWS ON PAGE 76

GLOSSARY★

①

Relative Contribution of Socialist Sector to National Income
(in percentages)

	1949	1950	1951	1952	1953	1954	1955	1957
Poland	65,9	70,2	72,4	75,0	76,5	73,2	74,1	69,3
Czechoslovakia	72,0	78,0	84,0	88,0	91,0	91,0	89,0	88,0 ^{1,2}
GDR (3)	...	56,4	59,4	62,2	67,9	67,3	67,5	74,1
Hungary	58,8	70,0	76,4	86,6	86,0	81,0	73,0	71,0 ¹
Romania	52,1 ⁴	62,7	...	70,0	75,0	...	...	75,0
Bulgaria	57,1	68,6	81,9	86,7	87,1	86,9	...	93,0
KPDR (N. Korea)	44,5	...	...	...	45,6	55,5	70,0	93,5

(1) For 1956. (2) Computed by the new method. (3) Relative contribution of the socialist sector to the gross national product. (4) For 1948.

②

The Growth of National Income

	1949	1950	1951	1952	1953	1954	1955	1956	1957
CPR (Chinese Peoples Republic)									
In billions of yuans (at 1952 prices)	54,4 ¹	...	...	61,1	70,0	73,9	78,8	88,7	94,0
1952 = 100	89,0 ¹	...	...	100,0	114,6	120,9	128,9	145,2	153,9
POLAND									
In billions of zloties (at prices as of 1/1/56)	135,0	156,0	167,0	178,0	197,0	217,0	236,0	254,0	288,0
1938 = 100	125,0	151,2	169,0	186,0	201,2	219,0	230,0	...	...
1949 = 100	100,0	115,1	124,0	131,4	145,1	160,4	173,5	188,2	203,3
CZECHOSLOVAKIA									
1937 = 100	110,0	122,0	133,0	145,0	154,0	159,0	173,0	183,0	196,5
1948 = 100	114,0	126,0	137,0	150,0	159,0	165,0	179,0	189,0	199,5
Per capita (1937 = 100)	113,0 ²	142,0	...	...	173,0	178,0	191,0	199,0	...
GDR									
In Billions of Marks (at 1950 prices)	...	30,7	36,5	39,7	41,5	46,4	49,8	51,0	...
1946 = 100	172,3	206,1	244,9	266,4	278,5	311,4	334,2	342,2	...
1950 = 100	...	100,0	119,0	129,6	135,4	151,2	162,5	166,4	...
HUNGARY									
1949 = 100	100,0	120,6	141,2	138,5	156,7	150,3	163,7	146,0 ³	...
Per capita (1949 = 100)	100,0	119,5	138,6	134,9	151,1	143,3	154,2	136,4 ³	...
BULGARIA									
In billions of Levs (at 1939 prices)	51,4 ²	58,9	...	73,5	90,8	88,7	101,3	102,9	110,9
1939 = 100	104,6	...	...	149,5	184,6	180,3	198,0	201,8	225,5
1948 = 100	100,0 ²	114,6	...	143,0	176,5	172,4	189,4	192,9	215,8
Per capita (1939 = 100)	92,1 ²	...	...	128,7	157,2	151,9	165,0	166,6	...
KPDR*									
1946 = 100	...	...	...	...	145,0	196,0	232,0	305,0	417,0
1953 = 100	...	...	...	...	100,0	135,0	166,0	209,0	287,0

* (Korean Peoples Democratic Republic)

(1) For 1936. (2) For 1948. (3) The Hungarian national income declined in 1956 as a result of the counter-revolutionary mutiny which in October-November, 1956, did enormous damage to the national economy.

★ Commas should be read as decimal points throughout.

③
Distribution of National Income in Several Peoples Democracies
(in percentages)

	1949	1950	1951	1952	1953	1954	1955	1956	1957
CPR									
Fund of Consumption	...	...	...	81,8	78,6	77,7	79,1	77,5	...
Fund of Accumulation	...	...	...	18,2	21,4	22,3	20,9	22,5	...
POLAND									
Fund of Consumption	84,4	79,3	79,7	77,2	72,1	76,8	77,8	79,8	78,7
Fund of Accumulation	15,6	20,7	20,3	22,8	27,9	23,2	22,2	20,2	21,3
CZECHOSLOVAKIA									
Fund of Consumption	76,4	77,7	75,3	...	74,3	80,5	81,0	75,0	...
Fund of Accumulation	23,6	22,3	24,7	...	25,7	19,5	19,0	25,0	...
HUNGARY									
Fund of Consumption	77,0	71,0	65,0	71,0	68,0	75,0	78,0	82,0	95,0
Fund of Accumulation	21,0	27,0	34,0	28,0	31,0	25,0	19,0	18,0	5,0
BULGARIA									
Fund of Consumption	...	...	...	73,2	72,0	81,1	83,5	86,0	81,5
Fund of Accumulation	...	...	...	26,8	28,0	18,9	16,5	14,0	18,5

⑤
Growth in Numbers of Workers & Employees in the National Economy (in thousands)

	Up to World WAR II	1949	1952	1953	1956	1957
CPR	2 400 ¹	8 000	15 804	18 165	24 179	24 400 ²
POLAND (3)						
Total	2 733 ⁴	4 354	5 893	6 272	7 083	7 279
Of which, in industry	859 ⁵	1 670	2 313	2 467	2 803	2 897
GDR						
Total	3 215 ⁷	2 859	3 786	4 046	4 407	4 532
Of which, in industry	...	1 669	1 829	1 838	2 013	2 050
HUNGARY						
Total	...	5 268 ⁸	5 816	5 992	6 367	6 492
Of which, in industry	...	2 155 ⁸	2 573	2 642	2 664	2 820
CZECHOSLOVAKIA (6)						
Total	...	1 386	2 157	2 360	2 402	2 356 ⁹
Of which, in industry	...	574	805	883	941	943 ⁹
ROMANIA (10)						
Total	...	2 123 ⁸	2 548	2 785	2 991	...
Of which, in industry	...	809 ⁸	966	1 028	1 101	...
BULGARIA						
Total	380	779	1 016	1 086	1 263	1 329
Of which, in industry	95	324	397	418	483	...
ALBANIA (11)						
KPDR (N. Korea)	43	83 ⁸	...	93	133 ¹²	...
MPR (Mongolian Peoples Rep.)	...	565	...	574	808	844
Total	31	60 ¹³	72	...	100	...
Of which, in industry	13	19 ¹³	...	...	21	...

(1) For 1948. (2) Planned. (3) Mid-year figures. (4) For 1937. (5) For 1938. (6) In the socialist sector, excluding individual farm cooperatives and students. (7) Total of all workers and employees active in the national economy in 1937. (8) For 1950. (9) For the 3rd quarter. (10) In the socialist sector. (11) In industry. (12) For 1955. (13) For 1947.

④
Distribution of National Product in the GDR
(in prices for corresponding years; in percentages)

	1955	1954	1953	1952	1951	1950
Total National Product	100,0	100,0	100,0	100,0	100,0	100,0
To offset exhausted means of production	45,3	45,1	43,8	42,3	42,0	41,4
To accumulation	8,1	8,1	7,8	8,5	8,5	8,6
Of which, for production expansion	4,5	4,7	4,5	4,5	4,3	4,2
For consumption	46,6	46,8	48,3	49,2	49,6	50,0
Of which:						
To social consumption	7,4	7,8	9,4	10,1	10,5	9,7
To personal consumption	39,2	38,9	38,9	39,1	39,1	40,3

⑥

Growth of Monetary Wages of Workers and Employees

	Unit of Measurement	1949	1950	1953	1955	1956	1957
CPR							
Yearly wage fund for workers and employees active in the national economy (excluding handicraft industries)	Mill. Yuan	...	...	8 800	10 000	13 600	...
Average monthly wage of workers and employees (excluding handicraft industries)	Yuan 1952 = 100	...	...	41,3 111,2	44,5 119,8	50,9 136,9	...
POLAND							
Yearly wage fund for workers and employees in the socialist sector of the national economy	Mill. zlotys	24 344 466	35 085 567	72 895 986	86 989 1 069	100 509 1 183	118 951 1 362
Average monthly wage of workers and employees	zlotys 1949 = 100	100,0	121,7	211,6	229,4	253,9	292,3
CZECHOSLOVAKIA							
Yearly wage fund for workers and employees in the socialist sector of the national economy	Mill. Koruny	29 765	36 484	53 230	61 595	65 756	...
Average monthly wage of workers and employees in the socialist sector of the national economy (1)	Koruny	867	945	1 082	1 178	1 224	1 248
Average monthly wage of industrial workers	Koruny 1949 = 100	781 100,0	876 112,1	1 138 145,7	1 252 160,3	1 285 164,5	1 291 165,4
GDR							
Yearly wage fund for workers and employees active in the national economy	Mill. marks	...	15 250	21 575	25 530	26 198	27 880
Average monthly wage of workers and employees active in the national economy	Marks	...	256	322	354	365	380
Average monthly wage of industrial worker	Marks 1950 = 100	...	265 100,0	344 130,0	386 146,0	396 149,0	409 154,0
HUNGARY							
Yearly wage fund for workers and employees active in the national economy	Mill. Forints	10 242	13 481	27 756	32 372	32 205	...
Average monthly wage of workers and employees active in the national economy	Forints	616	674	980	1 134	1 222	...
Average monthly wage of worker in manufacturing industry	Forints 1949 = 100	586 100,0	690 117,7	990 168,9	1 149 196,1	1 206 205,8	1 468 267,6
ROMANIA							
Average monthly income of worker family	1952 = 100	...	...	115,0	165,2	178,8 ²	...
Of which, wages of head of family	"	...	...	108,5	130,4	142,5 ²	...
Average monthly income of family of engineering-technical worker	"	...	...	115,7	143,9	153,9 ²	...
Of which, wages of head of family	"	...	...	119,8	129,8	134,5 ²	...
Average monthly income of white collar family	"	...	...	104,3	106,1	110,5 ²	...
BULGARIA							
Yearly wage fund for workers and employees active in the national economy	Mill. leva	3 957	4 397	7 549	9 267	9 823	...
Average monthly wages of workers and employees active in the national economy	Leva	423	456	579	628	648	679
Average monthly wage of industrial worker	Leva 1949 = 100	396 100,0	446 112,7	586 148,1	652 164,7	665 168,0	...

(1) Exclusive of student wages and additional payments to citizens with large families.

(2) Figures for 10 months.

⑦

Growth of Budgetary Expenditures for Socio-Cultural Needs of the Workers

	1949	1950	1951	1952	1953	1954	1955	1956	1957
CPR									
Millions of Yuans	...	750	1 345	2 280	3 360	3 460	3 190	3 900	4 700
1950 equals 100	...	100,0	178,6	304,0	448,0	461,3	425,3	520,0	626,6
POLAND									
Millions of Zlotys	6 808	8 280	16 317	16 228	22 900	26 100	29 045	34 505	41 200
1949 equals 100	100,0	121,6	239,7	238,3	336,4	383,4	426,0	521,4	651,7
CZECHOSLOVAKIA									
Millions of Koruny	5,8	10,0	10,0	11,8	22,3	27,4	28,3	28,8	31,9
1949 equals 100	100,0	172,4	163,8	203,4	384,5	472,4	487,9	296,6	550,0
GDR									
Millions of Marks	...	...	7 541	9 015	10 761	11 596	11 849	11 969	14 060
1951 equals 100	...	...	100,0	119,5	142,7	153,6	157,1	158,7	186,4
HUNGARY									
Millions of Forints	...	4,0	5,0	8,2	9,5	10,0	10,4	...	13,2
1950 equals 100	...	100,0	125,0	205,0	237,5	250,0	260,0	...	330,0
ROMANIA									
Millions of Lei	...	3 445	3 952	4 302	5 273	5 852	6 810	8 008	10 700
1950 equals 100	...	100,0	115,0	124,9	153,1	169,9	197,7	232,5	306,0
BULGARIA									
Millions of Leva	1 663	1 615	1 791	2 149	2 328	2 668	2 752	2 985	4 477
1949 equals 100	100,0	97,1	107,7	129,2	140,0	160,4	165,5	179,5	269,0
KPDR (N. Korea)									
Millions of Hwan	3 776	...	...	...	5 600	7 900	9 510	12 199	17 700
1949 equals 100	100,0	...	...	...	148,3	209,2	251,9	323,1	419,5

⑧

Index of Workers' Outlays for Consumer Goods and Services in the Czechoslovak Republic

(1953 equals 100)

	Oct. 1953	April 1954	April 1955	April 1956	Dec. 1956
Workers' and employees' families	94,1	87,4	86,7	84,1	82,2
Peasants' families	92,0	83,3	81,4	79,1	78,3

⑨

Index of Retail Prices in the Bulgarian Peoples Republic

(1952 equals 100)

	1953	1954	1955	1956
Over-all index of retail prices	93,2	82,6	77,8	71,6
Foodstuff prices	96,1	84,1	80,8	75,6
Prices of Industrial goods	89,9	80,5	74,5	...

⑩
Cost of Living Index in the GDR (1950 equals 100)

	1951	1952	1953	1954	1955	1956	1957
Cost of living index	78,9	72,4	68,9	64,0	62,5	62,2	61,2
Of which, outlays for:							
Food	72,2	65,6	61,2	54,8	52,4	52,7	51,8
Drink & Tobacco Products	81,4	61,6	53,0	47,6	46,8	46,8	46,8
Rent	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Light and Heat	93,8	93,1	74,4	74,5	74,5	74,5	74,5
Apparel	82,6	82,4	88,3	86,5	86,8	83,5	80,1
Sanitation and Hygiene	95,3	90,8	87,1	80,3	84,0	84,0	84,1
Education and other cultural needs	98,9	97,4	96,3	95,9	96,4	96,4	96,4
Transportation	95,3	94,4	85,9	84,1	77,8	76,4	75,0

⑪
Worker Family Budget in the Polish Peoples Republic in 1956 (1)

	Mining Industry		Metallurgy		Machinery Construction		Textile Industry	
	In Zlotys	In %	In Zlotys	In %	In Zlotys	In %	In Zlotys	In %
Average monthly family income	3 173	100,0	2 448	100,0	2 453	100,0	2 207	100,0
Of which, average earnings of inspected workers	2 344	73,9	1 614	65,9	1 606	65,5	1 124	50,9
Average monthly family expend.	3 173	100,0	2 448	100,0	2 453	100,0	2 207	100,0
Of which, for:								
Foodstuffs	1 333	42,0	1 193	48,7	1 128	46,0	1 082	49,0
Manufactured goods	1 032	32,5	707	28,9	752	30,7	693	31,5
Services	164	5,2	155	6,3	177	7,2	151	6,8
Deductions and fees	354	11,2	190	7,8	179	7,3	118	5,3
Other outlays and savings bank deposits	290	9,1	203	8,3	217	8,8	163	7,4

(1) A selective inspection of worker family budgets was conducted in 1956 in the Polish Peoples Republic: 251 families (averaging 3.7 members) in the mining industry, 143 families (averaging 3.3 members) in metallurgy, 265 families (averaging 3.66 members) in machinery construction and 318 families (averaging 3.2 members) in the textile industry.

⑫
Breakdown of Worker Family Expenditures in the Rumanian Peoples Republic (in %)

	2nd Quarter	1949	1950	1951	1952	1953	1954	1955	1956 ¹
Total expenditures	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0	100,0
Of which, for:									
Foodstuffs	64,5	55,9	53,6	56,8	49,7	48,4	45,3	43,3	42,2
Rent, heating & lighting	4,7	9,0	8,5	7,9	8,3	7,8	8,4	9,4	12,6
Clothing	8,4	14,1	15,4	14,3	15,5	16,0	16,1	16,5	17,1
Hygiene	2,4	2,3	2,6	2,8	3,5	2,7	2,6	2,3	2,4
Cultural needs and entertainment	2,0	2,3	2,1	2,1	2,1	1,6	2,1	2,4	2,8
Drink and tobacco	4,4	5,3	6,4	5,6	5,5	5,0	5,4	5,0	4,7
Transportation	1,4	1,5	2,0	1,8	1,9	2,1	2,2	2,0	2,1
Other expenditures	12,2	9,6	9,4	8,7	13,5	16,4	17,9	19,1	16,1

(1) For January-September

13

Breakdown of Worker Family Expenditures in the Bulgarian Peoples Republic (in Leva)

	1953	1954	1955	% of 1953-55 Increase
Total expenditures	3 144	3 424	3 634	115,6
Of which, for:				
Foodstuffs	1 598	1 552	1 611	100,8
Clothing	457	557	565	123,6
Cultural needs, articles of everyday domestic use and hygiene	211	285	329	155,9
Other expenditures	878	1 030	1 129	128,6

14

Growth of Retail Commodity Turnover

	1950	1951	1952	1953	1954	1955	1956	1957
CPR								
Billions of Yuans (at 1952 prices)	16 794	...	27 665	35 041	38 962	40 002	46 500	...
1950 equals 100	100	...	165	209	232	238	277	...
POLAND								
Millions of Zlotys (at 1956 prices)	94 026	99 299	102 894	99 588	118 558	130 966	150 931	169 211
1950 equals 100	100	106	109	106	126	139	161	...
CZECHOSLOVAKIA								
Millions of Koruny (at 1955 prices)	52 526 ²	...	...	67 074	74 157	79 493	84 778	89 247
1949 equals 100	100 ²	...	...	128	141	151	161	170
GDR								
Millions of Marks (at current prices)	17 260	21 407	25 016	27 371	29 719	31 559	32 648	34 838
1950 equals 100	100	124	145	159	172	183	189	202
HUNGARY								
Millions of Forints (at current prices)	...	...	31 776	36 312	41 784	43 980	48 264	52 800
1950 equals 100	100	100	90	100	120	126	...	...
RUMANIA								
Millions of Lei (at current prices)	13 900	17 414	15 668	19 584	22 759	28 565	31 404	34 801
1950 equals 100	100	126	127	160	182	200	226	250
BULGARIA								
Millions of Leva (at 1957 prices)	...	...	8 340	9 506	11 790	13 234	15 285	16 698
1952 equals 100	...	...	100	114	141	159	183	200
ALBANIA								
Millions of Leks (at 1951 prices)	7 298	8 027	...	...	12 500	13 870	...	...
1950 equals 100	100	110	...	...	171	190	...	...
MPR								
Millions of Tugheriks (at current prices)	318,6 ⁵	...	331,8	...	...	...	555,5	647,9
1952 equals 100	...	...	100	...	...	...	168	195

(1) Commodity turnover of socialist trade. (2) For 1949. (3) In adjusted prices as of January 1, 1955. (4) Commodity turnover of socialist trade in adjusted prices. (5) For 1948.

15

Average Yearly Per Capita Consumption of Foodstuffs and Industrial Wares
in the Chinese Peoples Republic

	Unit of Measure- ment	1949		1956		% of 1949-1956 Increase	
		Urban	Rural	Urban	Rural	Urban	Rural
Food Grains	Kg.	197,0	140,0	202,0	216,0	102,5	154,3
Vegetable Fat	Kg.	2,65	0,85	6,4	1,9	241,5	223,5
Pork & Meat Products	Kg.	5,25	3,45	7,0	3,85	133,3	111,6
Sugar & Candies	Kg.	1,3	0,15	3,85	0,85	296,2	566,7
Cotton Fabrics & Finished Goods (Including Home- woven fabrics)	M	8,8	2,2	19,8	6,4	225,5	289,9

16

**Average Yearly Per Capita Consumption of Foodstuffs and Industrial Wares
in the Polish Peoples Republic**

	Unit of Measurement	1933 — 1937	1949	1950	1953	1954	1955	1956	1957
Staple grains in terms of prepared products	Kg.	136,8 ²	163,3	165,8	163,3	166,0	170,7	156,0	156,0
Meat & Animal Fats	Kg.	19,6	28,7	38,2	35,5	37,0	39,0	43,1	47,8
Of which, pork fats	Kg.	...	4,3	6,2	5,5	5,7	6,1	6,8	...
Milk & Dairy Products in Terms of Milk	L	262,3 ²	278,7	292,5	310,9	322,6	331,9	340,2	353,8
Of which, butter	Kg.	...	2,7	3,3	4,0	4,6	4,8	5,0	...
Eggs	Unit	...	116	116	125	135	137	127	129
Salt-water fish	Kg.	2,3 ²	2,1	2,0	3,3	3,8	4,3	4,7	...
Of which, herring	Kg.	2,1 ²	1,8	1,3	1,6	1,8	2,2	2,6	...
Vegetable fats	Kg.	...	1,3	1,7	1,8	1,8	1,9	1,9	1,7
Sugar	Kg.	9,6	19,3	21,0	19,9	22,4	24,0	25,2	26,5
Beer	L.	3,4	10,4	13,9	19,0	19,6	18,9	18,7	...
Cigarettes	Unit	672 ⁴	893	1 063	1 204	1 278	1 378	1 471	1 509
Cotton fabrics	M.	9,5	13,3	14,4	15,1	16,0	16,5	17,8	19,2
Wool fabrics	M.	1,0	1,8	2,1	2,3	2,2	2,5	2,7	2,7
Silk fabrics	M.	0,5	1,8	1,9	2,2	2,5	2,8	2,9	3,1
Leather footwear	Pair	...	0,5	0,6	0,8	0,9	0,9	1,0	1,1
Paper (excluding cardboard)	Kg.	5,7	9,8	11,1	10,9	11,9	12,9	13,7	13,6
Soap	Kg.	1,4	1,7	1,9	1,8	1,9	2,1	2,3	2,2

(1) Average yearly figures. (2) For 1938. (3) Excluding horsemeat, fowls and game birds. (4) Tobacco products converted to their equivalents in cigarettes. (5) Omitting footwear made in the handicraft industries.

17

Yearly Average Per Capita Consumption of Foodstuffs in the Czechoslovak Republic

	Unit of Measurement	1936	1948	1953	1954	1955	1956	1957
Meat	Kg.	30,4	25,9	38,6	38,8	42,8	47,0	48,6
Pork lard (raw)	Kg.	5,4	2,9	6,3	6,7	6,9	7,1	6,2
Animal & Vegetable Fats	Kg.	5,2	5,8	6,7	6,8	6,8	7,4	7,5
Milk	L.	168,0	124,9	152,0	146,7	149,3	141,5	134,0
Butter	Kg.	4,8	2,5	4,1	4,9	4,9	5,5	5,3
Eggs	Unit	131	95	156	150	164	172	169
Sugar	Kg.	23,8	22,7	27,8	32,5	33,3	34,0	33,4
Wheat meal	Kg.	80,6	94,8	138,2	129,8	137,2	129,1	132,7
Rye	Kg.	66,4	72,3	69,0	63,5	61,4	61,4	74,1
Rice	Kg.	3,4	0,5 ²	1,5	2,5	3,1	4,6	4,5
Potatoes	Kg.	116,3 ³	95,2	...	122,3	111,2	116,1	...
Beans	Kg.	2,2 ²	1,6	1,9	1,9	1,7	1,7	...
Fruits	Kg.	43,2 ²	52,2	57,4	46,7	33,8	47,8	36,8
Vegetables	Kg.	44,4 ²	78,4	83,5	72,1	68,2	72,6	65,3
Tea	Gr.	30 ²	...	...	50	50	60	...
Beer	L.	51,7	63,4	79,9	76,0	79,1	83,3	...

(1) Pork, beef, mutton, goat meat, horsemeat and fowl. (2) Excluding Slovakia

18

Yearly Average Per Capita Consumption of Foodstuffs in the GDR (1)

	Unit of Measurement	1936	1950	1951	1952	1953	1954	1955	1956	1957
Meat & Meat Products (net weight)	Kg.	46,8	22,1	27,7	36,0	40,6	43,6	43,2	45,6	45,5
Fats	Kg.	...	11,5	16,2	18,2	20,3	23,9	24,9	25,4	26,5
Of which:										
Butter	Kg.	8,5	5,4	7,7	8,4	9,2	10,3	9,7	9,9	10,5
Margarine and vegetable fats	Kg.	...	3,0	4,6	5,5	6,4	8,3	10,1	10,2	12,4
Eggs	Unit	117,0	63,1	70,1	87,5	107,6	113,5	116,2	144,0	163,0
Milk (3.2 per cent fat content)(3)	L.	127,0 ⁴	74,0	78,0	89,9	78,8	78,6	84,5	89,1	95,1
Refined sugar	Kg.	22,9	20,2	23,9	31,8	31,0	30,5	27,3	28,2	27,4
Meal	Kg.	103,4	120,4	120,7	120,5	120,3	115,8	114,8	...	...
Potatoes	Kg.	170,8	219,3	210,6	182,6	197,3	176,5	169,6	170,3	173,1

(1) For the years 1950-1957 — supply of goods on the retail market and to wholesale consumers, the sale of wares on peasant markets, consumption by the rural population of its own agricultural produce, and also the supply of products for further processing by industry and craft enterprises (apart from potatoes for processing and vegetable fat for margarine production). (2) All Germany. (3) Excluding milk converted to condensed and dried milk and processed to other dairy products. (4) Figure not adjusted to equivalent in 3.2 per cent fat content milk.

19

Average Yearly Per Capita Consumption of Foodstuffs and Industrial Products in the Hungarian Peoples Republic

	Unit of Measurement	1950	1951	1952	1953	1954	1955	1956
Meal	Kg.	141,3	149,0	149,4	153,8	146,0	150,6	155,0
Sugar	Kg.	16,3	16,4	19,8	21,1	24,3	24,5	25,0
Potatoes	Kg.	108,7	106,7	102,9	109,7	128,9	135,6	122,0
Animal and vegetable fats	Kg.	17,7	18,2	18,8	17,4	18,6	21,1	22,5
Meat	Kg.	34,3	34,5	36,4	28,3	33,0	35,7	42,0
Eggs	Unit	85	80	88	62	84	116	123
Milk	L.	132,0	117,0	97,1	106,3	114,4	111,4	112,4
Wine	L.	33,0	34,6	28,4	22,2	22,6	18,9	...
Beer	L.	8,3	10,5	13,1	17,5	20,6	24,1	25,1
Cotton fabrics	Sq. M.	11,0	10,9	9,9	10,9	11,6	10,3	...
Woolen and synthetic fabrics	Sq. M.	2,5	2,9	1,9	1,9	2,3	2,2	...
Silk fabrics	Sq. M.	0,9	1,1	0,9	0,9	1,2	1,2	...
Leather footwear	Pair	0,62	0,78	0,85	1,01	1,12	1,06	...

20

Average Yearly Per Capita Consumption of Some Foodstuffs by Worker Families in the Bulgarian Peoples Republic

	Unit of Measurement	1939	1957	% of 1939-1957 Increase
Meat and meat products	Kg.	23,3	33,5	143,8
Butter	Kg.	0,6	1,6	266,7
Vegetable fats	Kg.	8,6	9,9	115,1
Milk	L.	33,8	56,6	167,5
Cheeses	Kg.	6,4	9,0	140,6
Eggs	Unit	52	86	165,4
Sugar and Sweets	Kg.	7,6	16,8	221,0
Rice	Kg.	3,9	5,7	146,2

(21)

Growth in the average yearly Per Capita Consumption of Some Foodstuffs by Cooperativized Peasant Families up to 1957 in the Bulgarian Peoples Republic (in percentages of 1953 figures)

Meat, Meat Products and Fish	151
Milk	178
Cheeses	124
Eggs	133
Sugar	440
Rice	390
Vegetable and vegetable preserves	131

(22)

Average Yearly Per Capita Consumption of Foodstuffs in the Democratic Republic of Vietnam

	Unit of Measurement	1939	1955	1956	1957
Rice	Kg.	...	115,0	...	132,2
Meat	Kg.	1,8	3,4	4,1	4,9
Fish	Kg.	8,0	...	...	10,2
Cotton fabrics	M.	...	3,5	5,3	6,3

(23)

Growth of Residential Construction in the Peoples Democracies

	Unit of Measurement	1950	1951	1952	1953	1954	1955	1956	1957
POLAND									
Rooms released for use	Thous.	179	176	174	209	209	252	264	346 ¹
CZECHOSLOVAKIA									
Apartments released for use	Thous.	38,2	30,9	39,3	39,0	38,2	50,6	63,7	64,3
GDR									
Floor space released for use	Thous. of Sq. M.	1 800	3 565	2 882	1 991	2 237	2 157	2 109	...
HUNGARY									
Apartments released for use	Thous.	24,7	17,7	16,7	16,8	27,2	31,5	25,5	49,0
ROMANIA									
Floor space released for use	Thous. of Sq. M.	...	2 192	2 016	2 163	2 659	2 904	3 543	...
BULGARIA									
Floor space released for use	Thous. of Sq. M.	1 140	741	732	839	1 111	1 758	1 697	2 795

(1) Including rehabilitation of damaged structures.

24

Birth and Mortality Rates and Natural Population Increase (per 1,000 persons)

	Before World War II	1950	1956
CPR			
Number of births	38	...	37
Number of deaths	33	...	17
Natural population increase	5	...	20
POLAND			
Number of births	25,0	30,7	29,0
Number of deaths	14,1	11,6	9,6
Natural population increase	10,9	19,1	19,4
CZECHOSLOVAKIA			
Number of births	16,3	23,3	19,8
Number of deaths	13,1	11,5	9,6
Natural population increase	3,2	11,8	10,2
HUNGARY			
Number of births	19,9	20,8	20,6
Number of deaths	14,3	11,4	10,3
Natural population increase	5,6	9,4	10,3
ROMANIA			
Number of births	29,5	26,2	24,2
Number of deaths	19,1	12,4	9,9
Natural population increase	10,4	13,8	14,3
BULGARIA			
Number of births	21,4	24,7	20,0
Number of deaths	13,4	11,7	9,0
Natural population increase	8,0	13,0	11,0
ALBANIA			
Natural population increase	16,9	24,8	29,0

25

Progress in Public Health

	Number of inhabitants per physician		Number of hospital beds per 1,000 inhabitants	
	Before World War II	1957	Before World War II	1957
Poland	2 703	1 493	1,5	5,1
Czechoslovakia	1 218	651	3,3	7,2
GDR	...	...	10,2 ¹	11,7
Hungary	862	689	5,1	7,0
Romania	1 895	802 ²	...	...
Bulgaria	2 000	628 ³	1,8	5,5
Albania	2 500	370	0,5	2,7
MPR	...	1 621	...	9,7

(1) 1950. (2) 1956. (3) Including stomatologist physicians.

26
Expansion in the System of Children's Nurseries

	Number of localities equipped with nurseries		Number of children attending nurseries (in thousands)	
	Before World War II	1957	Before World War II	1957
Poland	568	51 284	33,0	368,0
Czechoslovakia	1 286	36 885	104,6	255,0
GDR	...	62 036	274,0 ¹	304,0
Hungary	1 000	26 567 ²	112,1	167,8
Romania	...	...	90,8	276,6
Bulgaria	100	6 130 ³	12,9	251,0 ⁴
MPR	...	...	0,3	4,6

(1) As of December 15, 1951. (2) Excluding seasonal nurseries in rural localities.
(3) Excluding seasonal nurseries in 17,250 localities. (4) 1954.

27
Enrollments in Schools of General Education, Specialized Secondary Schools and VUZes (in thousands)

	Before World War II	1948/49	1956/57
CPR			
In elementary schools	23 684 ¹	24 391 ²	63 464
In secondary schools of general education	1 496	1 039 ²	5 165
In secondary specialized schools	...	229 ²	812
In VUZes (3)	154,6	116,0 ²	408
POLAND			
In elementary schools	4 865	3 353 ²	3 655
In secondary schools of general education	221,4	221,4 ²	202,7
In vocational and technical schools	194,9	511,5 ²	485,8
In VUZes	49,5	115,5 ²	170,3
CZECHOSLOVAKIA			
In schools of general education	2 210	1 594	1 952
In vocational schools	75,5	92,6	196,9
In VUZes	27,1	64,7	77,7
GDR			
In schools of general education	...	2 514 ⁵	1 829
In vocational schools	...	750,1	653,5
In secondary specialized schools (of the technical school type)	...	34,7 ⁵	126,7
In VUZes	...	27,8 ⁵	87,3
HUNGARY			
In schools of general education	1 096	1 202	1 255
In secondary general education and specialized schools	52,3	94,0	72,8
In VUZes	11,7	23,2	40,7
ROMANIA			
In schools of general education	1 604	1 848	} 2 099 ⁶
In secondary technical schools	14,7	...	
In VUZes	26,5	48,6	80,9
BULGARIA			
In schools of general education	1 010	971 ⁷	1 171
In secondary specialized schools	10,1	61,6 ⁷	61,0
In VUZes	10,2	30,9 ⁷	41,0

(1) The largest enrollment figure prior to establishment of the peoples democratic system. (2) 1949/50. (3) Not including post-graduate students. (4) The population of Poland was 34.8 million in 1939, 24.6 million in 1949 and 27.5 million in 1956. (5) 1951. (6) Including students in vocational training schools. (7) 1950.

28
Increase in Publication of Books, Journals and Newspapers

	Before World War II	1949	1957
CPR			
Total of Books published (in millions of copies)	...	275 ¹	1 786 ²
Total of newspapers & journals (in millions of copies)	...	833 ¹	2 964 ²
POLAND			
Total of books published	7 974	4 602	6 444
Total copies (in millions)	29,2	72,9	92,2
Total of newspapers & journals (in millions of copies)	...	1 400	1 895
CZECHOSLOVAKIA			
Total of books published	6 490	6 640 ³	4 226
Total copies (in millions)	32,0	44,2 ³	43,0
Number of newspapers & journals (by titles)	...	1 327 ³	1 519
Total copies (in millions)	...	920 ³	1 158
HUNGARY			
Total publications (printed items)	8 156	6 124	17 506 ²
Copies printed (in millions)	16,8	48,0	43,8 ²
Number of newspapers & journals (by titles) (4)	...	334 ¹	632 ²
Copies printed (in millions)	...	475 ¹	549,2 ²
ROMANIA			
Number of books published	...	2 417	3 024
Copies printed (in millions)	...	51,8	36,5
Number of newspapers & journals (by titles)	...	200	418 ²
Copies printed (in millions)	...	543,5	896,7
BULGARIA			
Number of books published	2 169	1 925	2 900 ²
Copies printed (in millions)	6,5	15,7	21,1 ²
Number of newspapers & journals (by titles)	906	297	185 ²
Yearly printing (in millions of copies)	141,5	322,3	508,2 ²

(1) 1950. (2) 1956. (3) 1948. (4) At year end.

N. Karotamm:

Reappraisal of Capital Property of Collective Farms is Needed

The value of capital property in the state-owned sector of the national economy will be reappraised in accordance with the decision of the Council of Ministers of the USSR. This is unquestionably a timely and indispensable measure.

Unfortunately, this decision does not provide for re-evaluation of various capital means of production acquired by the collective farms. Meanwhile the calculation of the value of capital property in the collective farms is inadequate. The current value of capital property in collective farms, as represented in their books, does not reflect their real value. The accounts of the collective farms are thereby deprived to a considerable extent of their real economic content.

Prices of a number of means of production acquired by the collective farms had changed more than once during the past 20 or 25 years. In consequence different valuations are given to the same objects acquired or built at different times. The evaluated cost of livestock raised for breeding or farm-work varies in different collective farms, although the animals were bred and raised on the farm. The same variations exist in respect to other capital property produced on collective farms, and this is conducive to a considerable abatement of the real value of capital property of collective farms.

There are no provisions for deducting the amortization costs on the collective farms. Consequently all capital property in collective farms, from the time it is acquired until its disposal, is accounted for at its original cost. This distorts the real picture of the value of available capital property in collective farms. The appraised value of capital property produced in collective farms does not account for the value of labor furnished by the members of collective farms to produce this property (capital construction, capital repairs), and this further lowers the real value of capital property of collective farms.

As a result of all this, today the way in which the reproduction of capital property in the collective farms is taking place is unclear. We will quote here a few figures concerning the way in which the value of farm animals and poultry is appraised in the books of two collective farms in the Briukhovetz district, Krasnodar region. These are the collective farm "Budenny," and the collective farm "Krupskaya." The data are as of January 1, 1956, and are shown in rubles per head of farm-animals:

The cost of pigs in all categories listed from 15 to 17 in the collective farm "Budenny" is appraised equally at 10 rubles per head. It is obvious, however, that their actual value is considerably higher. Young pigs, including those eight to nine months old, are appraised at 10 rubles, while goslings are appraised at 3 rubles, which is only three times less. Ducks are appraised at 4 rubles, and ducklings at 2 rubles. Three year old heifers, born in 1952, are appraised at six rubles, and the two year olds (born in 1953) are appraised at 60 rubles per head. Heifers born in 1954 (a year to a year and a half old) are appraised at 25 rubles. The year-

	Collective Farm "Budenny"	Collective Farm "Krupskaya"
(1) merino sheep	366	297
(2) breeding mares	503	241
(3) work oxen	326	209
(4) stallions, studs	8,806	9,557
(5) colts, 1954	70	75
(6) colts, 1955	50	50
(7) bulls, studs	158	562
(8) cows	357	419
(9) heifers, 1954	25	—
(10) calves, 1955	25	50
(11) steers, 1955	140	50
(12) pigs, studs	353	551
(13) sows	330	120
(14) hogs	15	—
(15) pigs, to 9 months old	10	90
(16) pigs, to 4 months old	10	46
(17) pigs, to 2 months old	10	3
(18) rams, studs	318	205
(19) sheep, breeding	80	114
(20) rams, castrated	10	37
(21) ewes without offspring	1	24(1954)
(22) cocks	3	3
(23) hens	2.7	7.2
(24) geese	10	13
(25) ducks	4	4.1
(26) ducklings	2	—
(27) goslings	3	—
(28) bee hives	177	136

ling ewes without offspring are appraised at one ruble per head, etc. In the collective farm "Krupskaya," the appraised value of livestock and poultry as represented in the books is better than in the collective farm "Budenny," but nevertheless it, too, has discrepancies between the values of various categories of livestock and poultry. In addition to this, the appraised values of a number of categories of livestock and poultry differ a great deal in these two collective farms and in a majority of cases do not correspond to the real value of these animals. Similar situation has been observed in other collective farms as well.

It is necessary to reappraise the value of capital property in the collective farms in order to establish conformity between the values as shown in the books of the collective farms, and the real values. This reappraisal will also permit establishing economically sound amortization rates for collective farm property. The net cost of production of the collective farms cannot be calculated without this, and the reappraisal will furthermore permit avoiding of material losses caused by the unrealistic evaluation of capital property (insurance premiums, losses through theft, etc.). In addition to all this, this reappraisal will permit comparative evaluation of capital property in the collective farms and the property in the state farms, the RTS, and the MTS. It will eliminate the current disharmony in the capital property appraisals in collective farms, and create a scientific system for property appraisal in all collective farms throughout the country, which would have to be applied everywhere as of the moment of the completion of capital property reappraisal in the collective farms. T

measure would also provide precise data about the reproduction of capital property in the collective farms, and permit sound planning of further investments into these farms.

The reappraisal of capital property in the collective farms should, in our view, be carried out simultaneously with the reappraisal of capital property in the state-owned sector of national economy. The reappraisal must be based on the current and revised values of capital property in the collective farms, and must account for depreciation (physical and otherwise) of the property as of the date of reappraisal.

The question of the price of productive capital property in the collective farms is also of great importance, and these costs will have to be accounted for in the reappraisal. This question must be solved on a nation-wide economic level. The reappraisal of capital property in collective farms should employ essentially the same methods as those which will be used in the state farms. The preparatory work for the reappraisal of capital property in the collective farms must be started as soon as possible. The reappraisal of the value of capital property will permit noticeable improvement in the bookkeeping of individual collective farms, and will advance the implementation of the most important tasks put forth by the Party and the government before the collective farms.

V. Budavei and S. Polovenko:

An Important Condition for Machine Maintenance on the Collective Farms and Improving Their Use

The new phase in the development of the collective farm system and the reorganization of the MTS bring again to the fore the question of calculation of reproduction of capital property in the collective farms.

The main trend in the development of farming is a further intensification of production in collective farming, and the resulting increase of output per 100 hectares of land at the lowest possible cost per unit of production. The farming experiences indicate that the greater productive capital property per unit of land in a collective farm, the higher is the revenue per hectare of land owned by the collective farm. Highly indicative in this respect are the following data supplied here for collective farms in the Ryazan region, and presented by the areas of same specialization in farming. (Figures are in 1,000 rubles per 100 hectares of land):

can be explained by the fact that they cultivate the highly profitable hemp cultures, produced for seed in a number of collective farms.

The capital property of collective farms is subdivided according to function in production, into productive and non-productive property.

The productive property includes farm-buildings, the value of land improvement works, tractors, combines, farm machines, vehicles (automobiles, trucks), livestock and working animals, etc. The non-productive property includes buildings for cultural development and housing.

The acquisition of the machine and tractor equipment by the collective farms considerably strengthens and broadens their material and technical basis. The value of machines and equipment owned by the collective farms will rise to between 42 and 44 billion rubles, and will amount to about one-third of the over-all property of collective farms. Surveys made in a number of groups of collective farms in the Ryazan district, while accounting for the diversity in specialization of farm production among them, show the following changes in the structure of capital property in the collective farms after the reorganization of the MTS (in percentages of the total).

The largest increase in that part of capital property which consists of mechanized farm equipment following the transfer of the MTS equipment to collective farms, is in the farms specializing in the grain-dairy-and-hog production (the Novo-Bokinskaia and the Andreevskaja groups), as compared with this increase in the groups of collective farms specializing in the vegetables-dairy-and-potato production (Red Army, and Shilovskaia groups), and the groups of collective farms specializing in the potato-dairy-and-hog production (Bastanovskaia, and Shatzkaia groups). Respective increases of the part of capital property consisting of mechanized farm equipment are on the average from between 5% to 14%, up to between 43% and 57%, in the former groups of collective farms; whereas this increase in the latter two groups of collective farms ranged from about 6%, up to between 23% and 30%, and from between 5% to 7%, up to 34% to 35%.

Since the highest degree of mechanization is in grain production, the collective farms with substantial amounts of land under grain cultures acquire more mechanized equipment than the collective farms which specialize in the production of vegetables and potatoes.

Thus, following the reorganization of the MTS, means of decisive importance for mechanized farming will be concentrated in collective farms. A great responsibility will be borne by the collective farms in these circumstances in respect to securing maintenance and improving the produc-

Groups of collective farms (1)	Value of capital property (2)	Value of gross income	Monetary income
Shilovskaia	44.8	86.9	27.9
Spasskaia	48.9	92.8	32.1
Red Army	58.8	116.5	47.1
Novo-Bokinskaia	28.2	55.7	14.1
Andreevskaja	36.9	63.9	15.0
Pobedinskaia	58.7	75.8	23.2
Bastanovskaia	31.4	49.6	12.6
Shatzkaia	41.8	67.5	36.0
Tengenevskaja	50.1	81.4	28.4

The above data show that the collective farms with greater amount of capital property per 100 hectares of land, have also higher indexes of both the gross output and of earnings per unit of land. The considerably higher earnings of collective farms in the Shatzkaia group than elsewhere,

tivity of the equipment transferred to them. The collective farms will now have to solve independently a number of questions concerning the renewal of their fleet of mechanized equipment (the acquisition of new, and the replacement of depreciated machines, modernization, etc.). An important

Groups of collective farms	draft animals	livestock	mechanized farm equipment	inventory and equipment	transportation	buildings and works
<u>Prior to the MTS Reorganization</u>						
Shilovskaia	4.7	11.3	5.9	7.7	10.1	60.3
Red Army	5.7	7.4	6.2	6.6	13.4	60.7
Novo-Bokinskaia	5.8	13.1	14.0	2.6	20.4	44.1
Andreevskiaia	4.4	8.3	5.3	3.7	20.0	58.3
Bastanovskaia	6.6	16.3	5.2	6.2	15.3	50.4
Shatzkaia	8.0	17.0	7.6	5.9	20.7	40.8
<u>After the MTS Reorganization (3)</u>						
Shilovskaia	3.5	8.4	29.8	5.8	7.5	45.0
Red Army	4.7	6.1	22.6	5.5	11.0	50.1
Novo-Bokinskaia	2.9	6.5	57.1	1.3	10.2	22.0
Andreevskiaia	2.6	5.0	43.1	2.2	12.0	35.1
Bastanovskaia	4.6	11.3	34.2	4.3	10.6	35.0
Shatzkaia	5.6	11.9	35.6	4.1	14.4	28.4

condition for a timely replacement and renewal of this equipment is the formation of a special fund for amortization. The calculation of the amortization rates in collective farms will also provide for adequate estimates of production costs, and establish precise indexes showing the rentability of both the individual branches of the farms, and the collective farms as a whole.

As the MTS were enterprises maintained by budgetary appropriations, they had not established amortization rates for depreciation of equipment. In the collective farms, however, all expenditures are paid for from the farms' earnings derived from its production, and it is for this reason that the collective farms are essentially self-supporting cooperative enterprises; they thereby have the economic premises for the creation of amortization funds.

Collective farms are aided continuously by the State which extends them short- and long-term credits. In 1957 alone, the State Bank [the "Gosbank"] extended credits to collective farming amounting to over 15 billion rubles. The crediting of collective farming by the State Bank will grow further in result of the reorganization of the MTS. It is estimated that in this year the State Bank's short-term credits alone will amount to 24 or 25 billion rubles.

In these new circumstances, along with the development of the short-term crediting of collective farming, a more accurate accounting of the collective farms' own sources of financing capital investments will have to be organized. The accumulation of amortization discounts will increase substantially in view of the considerable increase in the value of capital property of the collective farms.

Calculations of the amortization totals in the above mentioned groups of collective farms, made according to the rates accepted in the state farms for corresponding categories of capital property, indicate that the over-all amortization funds in collective farms will increase vast after the acquisition of the MTS equipment. The basic portion of the amortization fund will be derived from the amortization deductions from the cost of mechanized farm equipment, as represented in the following table.

The amortization discounts must become an additional source of financing of capital investment by individual farms. It is recommended to charge the expenditures related to payments to the RTS for capital repairs of machinery and the expenditures for replacement of the depreciated equipment, against the accounts of the collective farms' amortization funds.

Experiences in industry show that if complex amortization rates are fixed by categories of equipment but are not subdivided into the rates for capital repairs and the rates for replacement of equipment, they may lead to unwarranted lowering of discount rates for the replacement of capital property, while there remains a relative stability of the over-all amortization rates.

In our view, at the time when new amortization rates are being fixed, they should be derived from, and based upon the principle of division of the amortization deductions into the rates for capital repairs and the rates based on estimated costs for replacement of equipment.

This principle of dividing the amortization rates into a category for capital repairs, and the category for replacement

		Amortization fund of the collective farm (in 1,000 rubles)			Specific part for amortization of mechanized farm equipment, of the over-all amortization fund	
Groups of collective farms	Number of collective farms in a group	Prior to the acquisition of the MTS equipment	After the acquisition of the MTS equipment	The % of the increase	Prior to the acquisition of the MTS equipment	After the acquisition of the MTS equipment
Red Army	20	1,413.9	2,094.3	148.1	9.0	38.6
Shilovskaia	13	454.5	1,147.3	252.4	16.4	66.8
Andreevskiaia	9	462.8	1,228.9	265.5	7.4	65.1
Novo-Bokinskaia	8	289.4	957.3	330.8	18.8	75.4
Bastanovskaia	14	476.9	1,016.8	213.2	7.8	56.8
Shatzkaia	11	667.5	1,340.6	200.8	10.3	55.4

ent of equipment, must be applied also in the proposed development of amortization rates for capital property in collective farms.

At the time when the amortization rates will be fixed for the collective farms, it will be appropriate to deposit the amortization funds for capital repairs with the State Bank [the "Gosbank"], and the portion for capital construction with the Farm Economy Bank [the "Selkhozbank"], in the same way as it is done in industry. This would permit the drawing of funds for the coverage of current expenditures due to the RTS for completed capital repairs from the account with the State Bank. As for the amortization deductions which are accumulated in the Farm Economy Bank accounts, they will become a source of funds for the financing of capital investments in the collective farms. The amortization funds formed of the deductions for replacement of equipment will enable the State to use these funds in a centralized way for capital construction and replacement of mechanized farm equipment. This system of depositing the deductions, and of the use of the amortization funds so formed, will represent a direct participation of collective farms in a central fund for replacement and substitution of obsolete equipment.

The current reappraisal of capital property, must include the collective farms as well. The amortization funds of the collective farms must be formed in such a way as to account for deductions for all capital property; the buildings, the work-shops, the draft animals, mechanized equipment, etc. It must also be noted that the great variety of methods used in construction and in the estimating of costs of construction works in collective farms, precludes an even remotely satisfactory accounting of the costs of completed works. In view of this, it will be difficult to establish amortization rates for the works completed by the collective farms prior to the reappraisal of the value of capital property. It is therefore necessary to limit the amortization rates in the initial phase to the machine and tractor equipment alone, including the automotive vehicles and that portion of mechanized farm equipment which was owned by the collective farms prior to the reorganization of the MTS. The deductions for amortization of this equipment in the collective farms may be made at the rates accepted in the state farms and with the necessary adjustments; provided, however, that the conditions of utilization and depreciation of mechanized equipment are the same as in the state farms.

The compensation for depreciation of capital property not covered by amortization can be secured from the prime funds of the collective farms. In consequence, the appropriations deposited into the prime funds of the collective farms, will be used mainly for accumulation, and only partly for replacement. These appropriations will have to be made with the preliminary amortization-estimates taken into account.

FOOTNOTES

) The collective farms are grouped, and their names conventionally accepted, in accordance with the MTS zones as they existed in 1956.

) The estimates of value of capital property per 100 hectares, include the means of production in the collective farms, and that portion of the MTS equipment which had been serving a given group of collective farms.

) It is assumed that the collective farms have acquired that equipment of the MTS which was operated on their fields.

M. Tumanova:

The Problem of Increasing Labor Productivity on Grain Farms

Farming is based upon as specific a means of production as land. It is therefore of paramount significance to consider the increasing of productivity in farming in relation to improved uses of land. Unprecedented possibilities are opened in this respect by socialist land ownership. Development of an abundant production requires improved uses of land to increase the harvest, and to improve the output per 100 hectares of arable land.

Of particular importance for the improvement of the harvest yields are the improved cultures and the introduction of the most rational farming methods. These include a series of agronomical and organizational measures in the economy (crop rotation, methods for working the soil, plant care, removal of harvests, etc.). The introduction and strict observance of rotation of those crops which are the most appropriate for a given economy, is one of the important preconditions for obtaining consistently abundant harvests. This has been convincingly proven by the experience of state farms in the Omsk region, the state farms "Boevoe," "Lesnoe," and "Elite." As a result of strict observance of crop rotation, these farms produced in a sequence of years more grain than in 1933, although the amount of land they had under grain had been reduced to almost one half of that which they had in 1933. The harvest yield began to decline (with large variations in different years) in the state farms "Boevoe" and "Lesnoe" as soon as the observance of crop rotation was neglected.

In the forest-steppe and steppe zones in the Omsk region there are of great significance for production increases and especially for consistently high yield of grain harvests, the uses of pure fallows and of improved soil. However, in this region there are almost no pure fallows, although earlier experience showed that the state farms in the forest-steppe zone obtained wheat harvest yields 60% higher, and the state farms in the steppe zone yields 89.3% higher, from the wheat sown on the fallow land as compared with that sown on the ploughland.

In this region, there have been detrimental effects produced on the economy of the state farms also by their reduction of the acreage under the perennial plants, and expanding the acreage under the yearly crops. Yet, the cost per unit of the perennial fodder plants in the state farms in either of the two zones in this region, amounts to less than one half of the cost of the yearly plants fodder. The early ripening of the perennial plants permits the preparation of hay of excellent quality at a time of the year when the farm work is not very demanding. Experience proves that, in the conditions of Western Siberia, the perennial plants restore the soil structure disrupted by extended use of the yearly cereal cultures. In addition to this, the perennial plants contribute toward reducing the effects of wind erosion in the zone of the steppe.

The grain producing state farms in the Omsk region, and especially the farms in the steppe zone, give an inadequate consideration to soil improvement. Here, manure is often used as heating fuel, although in this region are large deposits of peat which can be used both as heating fuel, and as a component for soil improvement.

Important effects upon the growth of the harvest yields, and of increased labor productivity, are made by the quality of cultivation and the quality of other farm-work. This is

substantiated by the following examples. On the initiative of leading state farms in this region, the system in which there was no personal responsibility for farming a given parcel of land was discontinued. Separate sections of land are assigned to specific units within the labor brigade. Thanks to this change, the harvest yield in a section of land of 270 hectares, in the state farm "Red October," in 1957, assigned to tractor driver V. Novak and combine operator D. Pshenitzyn, was 3 centners per hectare higher than the average yield for the brigade as a whole, although a considerably lesser amount of work had been put in on this section of land. This organization of work will produce an unequivocal influence on labor productivity within the system of remuneration according to the results obtained, i.e. according to output.

It must be noted that the existing system of remuneration for farm-work in the state farms in this region gives almost no consideration to the quality of work furnished by the tractor drivers, combine operators, and other workers. The development of a system of remuneration for farm workers which would interest them materially in furnishing work of the highest possible quality is indispensable. The system of piece-work payment applied in some state farms for a number of farm jobs is an attempt to solve this problem and therefore deserves attention. However, the piece-work system cannot be applied everywhere. It is therefore necessary to insist on the development of a perfected method of remuneration.

The redemption of about 1,400,000 hectares of virgin land and of long unused land in the Omsk region is one of the factors contributing toward an improved use of land. Sharp increases in grain production were made possible by the formation of new state farms on this land, and especially on the virgin land. The grain producing state farms in this region harvested in 1957 almost five times more of grain than in the harvest year of 1950, and almost eight times as much as in 1953.

The development of the virgin and unused lands in the eastern areas of the USSR permits not only increased grain production, but also further improvements in farming specialization, which is an important factor in the growth of labor productivity.

Important consideration in the search for solutions of certain questions related to the specialization, structure and organization of production in the state farms, is in determining the optimum size for state farms.

The data about labor productivity in the grain producing state farms in the Omsk region, as related to the size of the farms in 1956-1957, show the following picture:

Classification of state farms by the amount of land (in 1,000 hectares)	number of state farms in a given category	net income		over-all commodity production		grain production	
		per man-day in rubles and kopeks	annual average per worker (in 1,000 rubles)	per man-day, in rubles and kopeks	annual average per worker (in 1,000 rubles)	per man-day in centners	per average worker, in centners
to 20	3	19-00	5.6	41-00	11.9	0.65	188
from 20 to 30	7	10-60	2.9	40-00	11.0	0.81	223
from 30 to 40	15	4-90	2.0	35-40	10.4	0.66	194
from 40 to 50	11	3-70	1.0	32-70	9.0	0.57	160
from 50 to 60	2	4-00	0.8	30-10	6.0	0.57	115
60 and over	2	1-90	0.2	25-00	6.3	0.52	127

The above data permit the conclusion that the best size for a grain producing farm is between 20,000 and 40,000 hectares. (The high ratio of commodity production to the total

output, and the high net earnings in the state farms in the first category, are due to their orientation toward seed-growing). According to the labor productivity indexes, the state farms with more than 40,000 hectares of land, are considerably behind the state farms in the first three categories.

Development of branches of farming other than grain production contributes a great deal toward the ability of the farms to improve the utilization of land, increase labor productivity, make a rational use of manpower and mechanized equipment, and eliminate the seasonal production-peaks. Improved use of the means of production is not, of course, limited to increased efficiency in the cultivation of land. An important role is played also by improved use of other means of production, and particularly the machines.

In this region in 1958, engines furnished 98.3% of the combined sources of power in the grain producing state farms. As compared with 1934, the mechanization of production reduced by more than one-half the ratio of labor required to cultivate one hectare of land under grain. One of the principal current tasks of the collectives in these state farms is to achieve full utilization of the available mechanized equipment. In the course of last year decisive successes have been achieved in this respect.

In 1958, in the grain producing state farm "Novo Sanzharsk" the model DT-54 tractors operated during the sowing season with four instead of three seeders attached to them, while the tractors S-80 operated with six instead of from four to five seeders attached. Five tractors were freed as a result of this and were made available for other autumnal work. The labor productivity in sowing was considerably increased, while the quality remained good.

The normal time requirement for grain harvest in 1958 in the Novo-Uralskiy state farm, amounted to 35 work-days. Later on, the harvest was gathered in this state farm in a shorter time, as tractors S-80 and DT-54 were used attached to two harvesters or two combines, as compared with the earlier use when only one combine was attached.

The improvement in the use of machines and equipment contributes toward the elimination of their standing idle time. The elimination of idle periods in turn permits increased productivity of mechanized farm equipment. In the "Novo Sanzharov" state farm, for example, 1,400 man-days were required for manual filling of seeders with the amount of seed required for sowing. This operation was mechanized in 1958 in this state farm by a simple attachment to tractors permitting the loading of seeders directly from the vehicle in motion. This improvement reduced for more than three times the amount of work in sowing. It also contributed

toward improved use of tractors and seeders.

The state of affairs in the state farms is not as good with respect to mechanization of the laborious operations in

breeding. The mechanization of the toilsome operations on the livestock farms has not been realized in all the grain producing state farms in this region. This is due especially to the low power-supply of the electric power stations, which precludes the mechanization of milking. In view of this, particularly important for the increase of labor productivity of this significant branch of production, is the fastest possible implementation of the decisions concerning the electrification of state farms, passed by the Twentieth Congress of the Communist Party of Soviet Union. Construction of a powerful new electric power station in the Novo-Uralskiy grain producing state farm has made possible the elimination of thirty small power stations. As this new power station was opened, all cattle farms were provided with adequate water supply, five milking centers were established, and this permitted an increase of almost two times of the milk-maid's labor productivity.

Of particular importance among the productive forces are those men who have mastered the operation of the means of production. The structure of manpower in 1957, as compared with 1934, has changed a great deal in the grain producing state farms. The percentage of specialists employed there rose from 1.7% of the manpower employed in 1934, to 2.9% in 1957. The average ratio of workers per state farm has somewhat decreased in result of the development of mechanization. This decrease is particularly noticeable among the seasonal farm workers; they amounted to 65% of the labor force in 1953, and were reduced to 23% in 1957. The growth of the ratio of permanent workers indicates that the percentage of skilled workers has also increased in the state farms, and this contributes considerably toward the growth of labor productivity. The amount of the average annual grain delivery to the State per farm worker in 1933-1934 was in this region 92 centners. This average increased to 113 centners per worker in the annual average for the years 1954-1957. In addition to this, in the 1954-1957 period the average production and delivery of livestock to the State was high in the grain producing state farms, whereas as recently as in 1934, these farms were not diversified in their production and cattle-breeding in them amounted to less than 0.1%.

Development of productive forces in farming influences the revision of the production norms and the rates for norm-valuation, which must correspond to increases in labor productivity. The prevailing production norms in the grain producing state farms are being considerably exceeded by the best workers, and the norms for jobs such as sowing, mowing and threshing are exceeded not only by the best and the average laborers, but also by poor workers. The sowing norm per shift working with a DT-54 tractor, for example, is 40 hectares, but the best result achieved by the workers at the state farm, "Kommunist," is 133 hectares, while the average result there is 98 hectares, and the poorest result is 64 hectares. The norm per shift working with the S-80 tractor is 70 hectares, but the respective results are 150 hectares, 84 hectares, and 73 hectares. Many workers exceeded considerably their production norms also in such jobs as ploughing, husking, cultivation, mowing, etc. The existing norms fail to account for the experience acquired in improved use of tractors and other equipment. Thus, for example, production norms are fixed for harvesting with a tractor with a single combine attached, but production norms are not foreseen for the work with aggregate equipment. The use of complex mechanization, and new approaches to the keeping and care for the animals, profoundly alter the earlier norms for attendance to animals. The production norm for a pig-tender, for example, limits the number of animals in one worker's charge to 210, and this norm of

animals that are being fattened accounts for the mechanization of laborious operations. Yet, in the Luzinski pig-breeding state farm, a pig-tender is in charge of 700 fattened pigs. This has been achieved in that farm through not keeping the pigs in separate cages, and through using automatic feeding and watering troughs.

All this attests to the need to diffuse the information about the experiences acquired in the leading state farms as fast and as widely as possible, as well as the need to give a serious and systematic consideration to the techniques of fixing production norms in each economy.

T. Krylova:

New Forms of Recording Labor Time on the Collective Farms

In the new phase of development of the collective farm system, when tractors and other mechanized farm equipment are sold to the collective farms, and when the collective farms are developing increasingly large and strong economies, questions related to adequate calculation of labor productivity acquire an increased importance.

Possibilities for precise measurement of labor productivity are not provided for in the existing system of calculating the work supplied in the collective farms (in working-days). The working-day is not equal to a full day of work, and the system of calculation by working-days does not provide for recording of the amount of work actually supplied. This deficiency cannot be solved by using some or other kind of transferable coefficients, since the collective farms themselves fix their production norms and rates for evaluation of work, and the norms and rates vary greatly in different farms. Often even collective farms which operate under analogous conditions evaluate the same kind and volume of work in greatly varying amounts of working-days. There are variations in the working-day evaluations in different branches of one single farm. In cultivation, for example, the working-days are calculated in relation to the fulfillment of the daily production norm, whereas in animal husbandry they are calculated in relation to the output obtained and the number of animals attended to by the worker. An adequate definition and comparison of labor productivity in different areas of collective farming cannot be made in these circumstances.

In the new conditions, the collective farms therefore can no longer limit their calculation of operational costs of collective farming by calculating the number of working-days alone. In view of this, the question is ripe as to what method to use in collective farms for a direct calculation of work furnished during the working time. This question needs solving not only for a collective farm as a whole, but also for individual branches of production, cultures, and specific jobs. Since 1957, the collective farms have used the method of recording the time when a collective farmer had reported to work, but this has permitted great errors since each check-in for work (even if the work was done only for an hour or two) was registered as one working-day. This method, furthermore, records only the over-all number of check-ins, but does not indicate in which branch of collective farming the work was done. The system of evaluating the work in man-days, on the other hand, is neither perfect nor precise, since it does not show the time spent at various jobs during the working time, while the actual length of the working day varies a great deal. Some collective farmers go to work at 7 or 8 o'clock in the morning and, with a break for lunch, work until 7 or 8 o'clock in the evening, whereas other collective farmers start working at 10 A.M., take the same

break for lunch, and stop working at 6 P.M. Nevertheless, both groups are credited with the same number of working days.

Certain leading collective farms had introduced the method of labor-accounting by working-days, with specifications about the work done in each branch of farming and at each job. Their experience doubtlessly deserves most careful attention and study. Of particular interest is the experience acquired in 1957, in the collective farm, "Road to Communism," in the Chkalov district of the Gorky region.

This collective farm had established daily records of time spent at work by each individual worker. The following form was used:

date	job description and the branch of farming	hours worked	output	working-days credited

Particularly precise records were kept in the Fifth Field-Work Brigade (brigade-leader K. M. Tokorev). Records in this brigade were kept as of January 1, 1957. Each day the brigade-leader marked on the daily forms the name of each collective farmer, description of his job, his output, the number of hours worked, and the amount of accrued working-days credited per branch of farming and type of work. In the first quarter of 1957, the records kept by the leader of the fifth brigade were by the working-day, and with specifications up to half-day's work. Separate record was maintained for each collective farmer. Collective farmers who worked only until the lunch-time, were credited with a half-working-day only. Collective farmers who worked both before and after lunch, were credited with a full working-day. However, a half-working-day among some collective farmers amounted to no more than two hours, while others worked three to four hours, and yet other farmers worked five and more hours. The same was true for those who worked a full day. Some worked six hours, others worked seven to eight hours, and yet other farmers worked nine to ten hours. This proves once again that the system of working-day accounting does not reflect adequately the amount of work furnished by individual farmers in a collective farm.

In consequence, it has become imperative at this time to start accounting for work supplied in the collective farms in man-hours. A working-day is an undefined quantity, varying even within a collective farm, and so in different collective farms. It was for this reason that the Fifth Field-Work Brigade of the collective farm, "Road to Communism," changed to accounting of work in man-hours as of April 1, 1957. The importance of the man-hours accounting is also in that it allows a greater precision in recording the amount of time spent at specific jobs in each branch of farming. This system at the same time divulges the content of work, and shows that a worker performs several jobs in the course of one working-day.

Experience in calculating work in man-hours discloses that the length of a working day is varying. (See Table A on page following.)

Given the seasonal character of farming, the full use of the readily available manpower is of great significance. Although the average work-day is fixed at eight hours, the collective farmers work two or three hours longer during the period of intense farm-work. In the remaining portion of the year, however, the length of the work-day decreases sharply.

The system of accounting for work by the man-hours has closed inefficiencies in the planning of working time. The actual working time of a considerable percentage of collective farmers does not exceed five to seven hours daily. This complete use of manpower in collective farms slows down the growth of labor productivity. Unlike industry, collective farming has the unused reserves of manpower. This fact can be explained not only by the seasonal nature of farm work, but also by erroneous structure of farm economy—irrational combinations of branches of farming.

In view of these circumstances, the ways for an adequate use of manpower in collective farms acquire a particular importance.

Collective farmers are not employed full time in the winter months despite the fact that it is then that the collective farms carry out the work in preparing seed, soil improvement, etc. (See Table B on page following.)

The collective farm "Road to Communism" is among the leading collective farms in the Chkalov district of the Gorky region.

This farm has a developed economy, with a number of branches. Its leading culture is the flax fibre. In the collective farm, greater effort is made than in any of the adjacent collective farms, to achieve a more even use of the working time spent at collective work by the farmers throughout the year, and to arrive at organizing full work-days at all times. Yet, even in this farm the collective farmers' annual average working time per day is less than eight hours.

It is the records kept by man-hour system that help to reveal these abnormalities. An even and full use of manpower throughout the entire year is one of the important problems. It is upon the full use of the farmers' collective working time that depend both the growth of the collective economy, and the improvement of the collective farmers' standard of living.

Other leading collective farms in this district (the "A. A. Garde," "Lenin's Road," and others), have also changed to working time accounting to the man-hour system.

This new system of accounting for the working time in man-hours, being more perfect than other methods, has been put to serve for a great many managers and brigade-leaders in the Chkalov district of the Gorky region, as a basis for control of the amount of work required in the production of separate farm cultures, and as an indicator of the efficiency of the use of manpower.

The collective farm "Road to Communism," in order to provide for a full and even employment of collective farmers throughout the year, has set up a sewing shop serving collective farmers, and is organizing other auxiliary services (for example, coöperation). Marx spoke about this kind of diversification in the farm economies, where farming is combined with the auxiliary services. He pointed out that "The discrepancy between the productive time and the working time is the natural basis for merging farming with the auxiliary trades."^{*}

Now, when all the requirements are there—diversification, mechanization, auxiliary trades, and abundant managerial talent—the management of collective farms can administer them both the manpower and the mechanized equipment and do so in harmony with the requirements of productivity. This will provide each collective farmer with work in the collective economy throughout the entire year.

* K. Marx, *Das Kapital* (Russian edition): 1954. Vol 2,

Classification of Able-Bodied Collective Farmers by Working-Time (in Hours) per Day,
and the Average Accrual of Working-Day Crediting per Worker

A	September				October			
	men		women		men		women	
	number of workers	average accrual of working- days in the course of one day of work	number of workers	average accrual of working- days in the course of one day of work	number of workers	average accrual of working- days in the course of one day of work	number of workers	average accrual of working- days in the course of one day of work
to 5 hours	3	0.93	6	0.70	—	—	—	—
from 6 to 8 hours	4	1.18	14	1.10	3	0.91	25	1.04
from 9 to 10 hours	5	1.67	6	1.45	7	1.64	2	1.23
over 10 hours	1	2.52	5	1.71	—	—	—	—
Total	13	1.57	31	1.24	10	1.28	27	1.14

Percentages of the Working Time Supplied in 1957 by the
Members of the Fifth Field-Work Brigade in the Collective
Farm, "Road to Communism." (by months)

B	number of workers in the collective economy	number of working-days per worker and per month		actual working time supplied, as compared with the planned time (in percentages)
		planned	actual	
January	49	24	8	33.3
February	36	24	9	37.5
March	38	24	10	41.7
April	44	24	8	33.3
May	48	24	14	58.3
June	52	24	17	70.8
July	47	24	17	70.8
August	54	24	18	75.0
September	56	24	15	62.5

. Morozov:

On One Attempt at an Account of the Political Economy of Feudalism

B. F. Porshnev's book, *Outline of the Political Economy of Feudalism*, (Gospolitizdat, 1956, 207 pp.), has attracted the attention of historians and economists. This is because the book constitutes attempts to give a systematic and detailed account of the political economy of feudalism. Such an attempt is to be welcomed in every possible way. B. F. Porshnev is well known as an erudite medievalist, a specialist in feudal affairs. The author has set himself the goal of analyzing the more important internal relations of feudal political economy, replacement production, the nature of the feudal rent and its distribution, the characteristics of exchange and pricing under feudalism, and also of analyzing critically the economic ideology of the feudal era. In this book the reader will find many interesting generalizations and original conclusions on a series of problems of feudal political economy.

While noting the positive qualities of the book, however,

there are several fundamental defects which cannot be disregarded.

The works of Marx, Engels and Lenin deal with all basic questions of the characteristic nature of the feudal social structure. The chief task of the author was systematically and fully to set forth the theoretical positions on feudalism of the classics of Marxism-Leninism. In our opinion, however, B. F. Porshnev has made inadequate use in his book of these positions. Nothing else can account for the presence in the book of several errors and contradictions. They are above all revealed in his treatment of the subject of feudal production relations. When generalizations are involved everything is all right, but when the author passes to the specific analysis of feudal production relations, he often substitutes legal and political for economic and production relations.

B. Porshnev frequently reminds the reader that feudal production relations were based on feudal land ownership. At the same time, basing himself on Marx's letter of January 24, 1865, to Schweitzer, he emphasizes that property relations are not to be examined in their juridical aspect, but that their real underlying economic nature is to be sought out (p. 23). But it evidently escaped the author's attention

that, in this same letter, Marx reproached Proudhon for having grouped all these economic relations under the single juridical notion of "property" and, hence, being unable to surmount the limitations of juridical conclusions, "entangling himself in every conceivable lucubration, unclear even to himself, regarding genuine bourgeois ownership."⁽¹⁾ The author should have borne this position of Marx's in mind while examining feudal production relations. He demonstrates to the reader, however, that feudal land ownership was inherently hierarchical, conventional, legally unique, etc. (pp. 27, 28). The question arises: To what end did the author deem it necessary to engage in extensive dissertations on the juridical aspects of feudal land ownership? Why, he himself has stated more than once that political economy is concerned not with the juridical aspects of property, but with economic relations, and he criticizes the bourgeois historians Guizot and Fustel de Coulanges for having lost sight of economic relations, regarding the conventional and hierarchical character of the land ownership of feudal lords as fundamentally characteristic of feudalism.

In our view, the author gives too much importance to these juridical peculiarities. He arrives at an eclectic conception of the economic relations of feudalism. This is brought out with exceptional clarity when he discusses the land allotted by the feudal lords to the peasant serf. On this subject (as, by the way, on several others as well) B. F. Porshnev's book mingles correct with erroneous positions. For example, the author refers to the relationship between land owner and serf as "vassalage," and then describes the serf as a "holder" of land. It is well known, however, that this is characteristic for relations among feudal lords and nobles of varying ranks: the vassal was granted land in return for various types of services to the feudal lord. The relationship of vassalage is above all a political relationship within the ruling class, among feudal lords; the relationship between feudal lords and serfs, on the other hand, is a relationship between two antagonistic classes: the exploiter and exploited classes. The author is of the view that the relation of vassalage duplicates the relation between landlord and peasant (p. 32). He sees the relationship between feudal lord and the peasant serf as a relationship between a proprietor and those who have no direct, free access to ownership, to the land. Instead of showing the peculiarly feudal manner of attaching the immediate producer to the means of production (which constitutes the distinction between social groupings), the author leads the reader astray, to the sphere of legal and political relationships. He writes, for example, that the allotment was the conditional property of the peasant serf (p. 31) and was even almost equivalent to his full ownership of the land (pp. 29, 30). The author loses sight of Lenin's criticism of the Populists (Narodniks), who asserted that the land belonged to the peasant serf.

In B. Porshnev's opinion, not only the ownership of the land by the lord (pp. 27, 28), but also the allotment, was inherently conditional and limited in character. The reader might well inquire: what actually is the difference between the lord as landowner and the serf with his allotment? The author asserts that tenure and vassalage were equally proper to relations among lords and between the lord and his serfs. This merely muddles still further the elucidation of relations deriving from ownership of the land. It might be thought that B. Porshnev would therefore regard the allotting of land by the lord to the serf as the only economic limitation of feudal tenure; that the allotment "resembles full ownership" by the peasant of his land. However, he asserts all the same that the lord was the true proprietor of all land, including the allotment.

Lenin wrote: "Everyone knows what serfdom amounted to from the juridical and administrative points of view and in practice. But it is very seldom that the question is raised of the intrinsic nature of the relationship between landlords and peasants under serfdom."⁽²⁾

Analyzing the intrinsic nature of relations between landowners and peasants, and the system of production relations prevalent under serfdom, Lenin showed that the land was divided among, and owned by powerful landlords. The feudal lords transferred part of their land in allotment to peasants. The peasant was able to support himself and his family by cultivating this allotment. The means of subsistence for the peasant were embodied in the fruits of the peasant's labor on his allotment. It was not merely that the peasant needed an allotment to work, but that the landowner needed farm hands. Lenin emphasized that the peasant's farming "for himself" on his allotment was the essential precondition to the landowner economy and had the purpose of "securing, not a means of livelihood for the peasant, but workers for the landlord." Criticizing the Populists, Lenin remarked several times that the allotment "was wholly and exclusively an instrument of the exploitation of the peasants by the landlords, to 'ensure' the landlord a supply of working hands, and never for the real protection of the peasant himself."⁽⁴⁾ Consequently, by allotting land to the peasants, the landowner was looking after his own interests, was pursuing his own goals, and was creating the conditions under which the peasant was obliged to produce a surplus for the landlord. The feudal lords allotted land to their serfs in order to exploit them. The opinion of B. Porshnev, therefore, that the feudal allotment constituted an economic limitation on feudal land ownership, is infeasible. On the contrary, by allotting land to the peasants, the feudal lords economically realized their ownership of land, because the allotment served as an instrument for the exploitation of the peasants. Neither the relations of vassalage and tenure, nor the almost full ownership of which B. Porshnev writes, are by any stretch of the imagination to be attributed to the allotment or to the serf.

Dealing with the subject of feudal land ownership, B. Porshnev for some reason refers exclusively to the landlord, forgetting all about such feudal powers as the state itself, the monarch and the church. The Catholic Church held a considerable portion of the total English territory in feudal tenure. Marx also noted that, in each country, the church owned roughly one third of the land and was a mighty power in the feudal organization. The monastic and autonomous estates were the most thoroughly steeped in the traditions of serfdom, contributing to the enrichment of the most reactionary and socially vicious parasites. The Romanovs were the most powerful landowners in Russia. The state was the largest landlord, owning several million peasants.

Elements of a legal approach to the relations of feudal production are most clearly visible when the author makes use of the concept "limited ownership of the production worker—the serf."

This "limited ownership" is contrasted with absolute ownership by the slaveholder of his slave. In our literature the total distinction between absolute ownership of a slave and limited ownership of a peasant serf has usually amounted to no more than that the master could kill his slave with impunity, whereas the feudal lord did not have the right to kill his serf. The author expresses this thought on page 31 of his book. But this is a juridical distinction, not an economic one, and is not characteristic of property as an economic category; in our view, limited ownership of a worker, as treated by the author, is a legal concept, not an economic one. Starting from the economic content of property, the question arises: which proprietor would set about intro-

into the system the destruction of his own property, instead of seeking out his economic advantage? On the other hand, if a feudal lord were able without hindrance to buy and sell or mortgage his serf, then should such an ownership not be regarded as absolute? After all, when the owner of merchandise sells that merchandise, is he not acting as an absolute owner?

The work states several times that the concept of limited serf ownership is equivalent to the notion of non-economic constraint (pp. 37, 41 and others). At the same time it asserts that limited serf ownership is the same as any other kind of ownership, including that of the means of production (p. 43). Describing feudal land tenure, the author concludes that everything that he says about feudal land ownership is equally applicable to limited ownership of the production worker and his labor (p. 23). Comrade Porshnev regards limited ownership of the production worker as one of the bases of feudal production relations. In the author's opinion, "the limited ownership by the lord of the peasant, giving rise as it does to the non-economic dependence of the peasant, is characteristic, not of the superstructure, but of the foundations of feudal society and is one of the most essential features of the feudal foundation" (p. 37).

The author also distinguishes carelessly between base and superstructure phenomena in his conclusions on the economic content of feudal land rents. He construes feudal rent as "the return realized by the feudal lord on his land holdings and on his limited ownership of production workers" (p. 54). The author is hence at pains to avoid the term "land rent." Here, again, we detect a confusion of economic and legal relations.

Giving a general definition of land rent, Marx wrote: "Whatever the specific form of rent, all its forms share in common the circumstance that the appropriation of rent is one of the economic ways in which a return is realized on land ownership, and that land rent, in turn, presupposes land ownership..." (5) Analyzing rent in kind, Marx remarked: "From the economic standpoint, the replacement of the corvée by payment in produce leaves the essential nature of land rent unaltered. The last of the forms which we are examining here consists in that land rent is the sole equivalent and normal form of surplus value or surplus labor." (6) On the other hand, starting from the circumstance that limited ownership of peasants is one of the bases of feudal production relations, Porshnev in a number of cases gives an incorrect treatment of the nature of feudal rent. Attempting to describe the content of limited ownership of peasants, Porshnev mentions that only simple manual laborers may be so owned; workers capable of complex tasks are unsuitable as objects of the feudal lord's limited ownership (p. 85).

Historical facts, however, bear witness to something quite different. Even the serfs included in their ranks workers who were capable of complex, skilled labor—in the Russian manufactures, for instance; there were some among the serfs who were talented artists, musicians, etc.

The author further describes the situation as if it were a process of gradual transformation "of the worker, the repository of skilled labor, not into a slave but, on the contrary, into a freeman..." (p. 87). In his view, one's chances for personal freedom could be enhanced, in the final analysis, through the mastery of complex labor requiring advanced training. This sort of generalization seems questionable. It cannot be conceded that the question of the emancipation of the serf was to be decided favorably merely on the basis of some sort of improvement of his labor skills. It was the landlord who extracted an advantage from the serf's improved qualifications, since he could either employ

the peasant himself for complex tasks, or he could sell him for a higher price.

Thus, the category of limited ownership of production workers does not promote, but muddles comprehension of the essence of feudalism. The classics of Marxism-Leninism did not employ such a concept. Several Soviet historians and economists have also rejected it. In spite of this, Comrade Porshnev has set himself the task of justifying the importance of this scientifically bankrupt concept in an explication of the nature of feudalism. This is betrayed not only by the incorrect treatment of feudal rent and of the basis of production relations. It is also manifested in his patent exaggeration of the function and importance of non-economic constraint.

B. F. Porshnev remarks more than once in his book that the concept of limited ownership of peasants is equivalent to the notion of "non-economic constraint." Hence, he incorrectly regards non-economic constraint as an economic category. Porshnev asserts that limited ownership of peasants is one of the supporting pillars of the relations of feudal production; from this it follows that the relationship of non-economic constraint is basic and determinative to the description of the relations of production. Such an idea is not in agreement with historical materialism. Lenin has pointed out that the basic idea of historical materialism is that social relations are divisible into material (production relations and ideological relations [political, legal, religious, etc.]). Primary are the production relations, which take shape outside the will and consciousness of the people in the process of social production; but the ideological relations are a superstructure over the relations of production; the explanation of politico-juridical forms must be sought in material relations. Lenin also emphasized that, when analyzing capitalist social formations, Marx confined himself "exclusively to production relations among members of the society, without ever resorting even once for an explanation to any factor external to these production relations." (7)

From the various areas of social relations, Marx singled out the production relations as basic, original and determinative of all other relations. The relations of non-economic constraint are, in our opinion, categories pertaining to the superstructure, and hence cannot be included among the foundations of the relations of production, cannot be regarded as determinative of production relations. Both Marx and Lenin repeatedly emphasized that non-economic constraint was engendered by the feudal economic system and was a consequence of this particular system. Marx wrote: "That specific form in which uncompensated surplus labor is extracted from the immediate producers, determines the relation of supremacy and enslavement as it emerges directly from production itself and, in turn, exerts a reverse effect on the latter ... the direct relation of the owners of the production facilities and the direct producers ... this is where we always discover the most profound mystery, the most secret foundation of the entire social order and, consequently, the political form of the relation of sovereignty and subjection as well ..." (8) Marx further showed that property relations compel the peasant serf—the owner of labor power—"to strain and squander it beyond the measure required for the satisfaction of his own indispensable needs." (9)

In the article "The Agrarian Question in Russia towards the End of the XIX Century," Lenin, describing the nature of the production relations of serfdom, compares the serf economy with the capitalist, and emphasizes that "the economic system engenders 'non-economic constraint' here ..." (10) In another work, *The Development of Capitalism in Russia*, Lenin shows that non-economic constraint is an outgrowth of the feudal economic system, of the totality of production

relations of serfdom. Describing personal subjection, Lenin defined it as the direct power of the landowner over the person of the peasant, thereby emphasizing that what are involved are not economic, but political or juridical relations.

As can be perceived from the utterances of Marx and Lenin adduced above, all forms of non-economic constraint are politico-juridical relations and are determined by the material production relations. But, having been engendered by the feudal economic system, the relations of non-economic constraint exert in their turn a reverse influence on production.

Serfdom is a juridical institution, but the practice of serfowning, as Lenin emphasized, "further corresponded to a particular system of manorial (and peasant) economy ..." (11) Politico-juridical relations obscured the economic relations of feudalism at the time. In this connection, Marx wrote: "... The subjection of the producers by the facilities of production are here obscured by relations of mastery and enslavement, which arise and are perceived as the very mainsprings of the production process." (12)

B. Porshnev remarks that, under feudalism, the economic relations of people "look like" political, state and "public-legal" relations (p. 32). He also maintains that "political economy must penetrate beneath the political surface," must cut through the politico-juridical shell to the economic core of feudal land ownership (p. 34), that its juridical appear-

ance should not prevent us from discerning the productive relations of people, the economic subjection of peasants. An analysis of the book shows, however, that Comrade Porshnev has not fully succeeded in avoiding the danger of confusing production relations with political and legal relations.

There are quite a few correct thoughts and interesting opinions in the book. However, the carelessness remarks above and contradictory treatment of the most important aspects of the political economy of feudalism, substantially lower the value of this work.

(1) K. Marx, F. Engels, Selected Letters, Gospolitizdat, 1953, 154 pp.

(2) V. I. Lenin, Works, Vol. 15, p. 65.

(3) V. I. Lenin, Works, Vol. 3, p. 158.

(4) V. I. Lenin, Works, Vol. 1, p. 469.

(5) K. Marx, Capital, Vol. III, 1954, p. 646.

(6) *Ibid.*, p. 807.

(7) V. I. Lenin, Works, Vol. 1, p. 123.

(8) K. Marx, Capital, Vol. III, p. 804.

(9) *Ibid.*, p. 805.

(10) V. I. Lenin, Works, Vol. 15, p. 66.

(11) V. I. Lenin, Works, Vol. 6, p. 38.

(12) K. Marx, Capital, Vol. III, pp. 844-45.

Publication of the Third Revised Edition of the Textbook "Political Economy"

The State Publishing House for Political Literature has published a third, revised edition of a textbook on political economy prepared by a staff of authors consisting of Academician K. V. Ostrovityanov, Corresponding Member of the Academy of Sciences of the USSR L. A. Leontyev, Member of the Lenin All-Union Academy of Agricultural Sciences D. Laptev, and the Doctors of Economic Science L. M. Starovsky and I. I. Kuzminov. Corresponding Member of the USSR V. N. Starovsky participated in the selection and processing of the statistical material inserted in the book. The textbook has undergone a great deal of revision work in comparison with the second edition.

The foreword to the textbook states: "During the time that has elapsed since the publication of the second edition of the textbook on political economy, socialist production in the Soviet Union and in the peoples democracies has been pursuing an undeviatingly upward course of development, the national economic leadership has been improving its management methods, and the creative initiative of the masses has continued to grow in an increasing number of ways.

"The capitalist camp has witnessed the further intensification of the general crisis of capitalism, the collapse of the colonial system, and the increasing aggravation of internal and external contradictions.

"Decisions of the 20th Congress of the Communist Party of the Soviet Union and of subsequent plenums of the Central Committee of the CPSU have assigned new primary tasks for the social and, particularly, for the economic sciences. The progress report of the CC CPSU to the 20th Party Congress emphasized that, in the current stage of the building of Communism, the economic aspect of Marxist theory steps into the foreground.

"Economists, as well as all workers on the ideological front, have the task of completely eliminating traces of the personality cult, of boldly and creatively working out a whole new series of problems of practical socialist economics, of intensifying their struggle against bourgeois ideology, against every attempt at revising Marxism-Leninism as the chief danger at the present stage, and against dogmatism and doctrinairism.

"All this has given rise to the necessity fundamentally to revise the text of the textbook on political economy."

The most far-reaching alterations have been carried out in the description of the general crisis of capitalism, and especially in the section on "How Socialist Production Operates."

The structure of the textbook has been radically altered. As noted in the foreword, "the author staff has been greatly assisted in the preparation of the third edition of the textbook on political economy, as of both previous editions, by a large number of energetic economists, scientific workers, instructors, executives and propagandists.

"At meetings held to discuss the second edition of the textbook, conducted with the participation of many economists at the AS USSR, the Academy of Social Sciences at-

tached to the CC CPSU, at the Moscow State University and the Moscow State Institute of Economics, and at the State Publishing House for Political Literature, and in a large number of letters from readers, many valuable critical remarks and concrete suggestions have been made, aimed at the improvement of the textbook. In this connection, the remarks and suggestions of many foreign economists, especially from the peoples democracies, have also been very helpful."

A. Minsky:

On the Results of the Conference on the Development of the Productive Potential of Eastern Siberia

In August, 1958, a conference was held in Irkutsk to discuss urgent problems concerning the utilization of the productive forces of Eastern Siberia. This conference has aroused deep interest not only among specialists, but also among extensive segments of Soviet society. The basic aim of the conference was to define and analyze the most expedient course to be followed and methods to be applied for the effective utilization of the vast resources of the richest krai in our country.

As long as a century and a half ago, the remarkable Russian writer-patriot Alexander Radishchev with the penetrating insight of a learned economist defined the importance to the state of absorbing the riches of Siberia. He wrote of the Siberian expanses and their natural riches: "What a rich krai is this Siberia, this mighty krai! It will take centuries, but when it has been settled, a great role in the annals of the world is in store for it." Radishchev was wrong in only one thing: The riches of this krai began to weigh heavily in the "annals of the world" since the time of the very first five-year plans. Now, in the glorious era of struggle for the fulfillment of paramount economic tasks, the Party appeals with new vigor for the energetic utilization of the resources of this krai for the benefit of the Soviet people.

The practical experience of the industrialization of Eastern Siberia graphically demonstrates the vital significance of the scientific-economic groundwork that was laid for its development, which has been the result of the collaboration of many research institutes, and planning, design, managerial and social organizations. Hence, now that the Eastern raions have been assigned an important place in the headlong development of the productive forces of the country, it is understandable that great significance should have been attached to this great and learned conference on the immediate future of Eastern Siberia. It must be remarked that the Irkutsk conference took place during the last days of the protracted work of drafting the goal figures of the seven-year plan. Its materials and recommendations were examined and taken into careful consideration during the final stages of the elaboration of the draft plan for the development of the national economy of the country for 1959-1965.

The tasks confronting the conference defined the scope of its work. It was preceded by fruitful regional conferences in the Krasnoyarsk Krai, the Irkutsk and Chita Oblasts, the Buryat and Yakutsk Autonomous Republics, and the Tuva Autonomous Oblast. As is only natural, local problems received the most painstaking attention at these regional conferences. But, starting from the standpoint of over-all state interests as reflected in this or that economic administrative raion, the general development of Eastern Siberian productivity was also widely discussed. Participants in regional conferences advanced many useful suggestions on the rational and effective utilization of the natural resources of the "Siberian treasure-house."

It became clearly evident even at the regional conferences that the Eastern regions are of enormous importance to the national economy as the chief component in the mighty base of materials and production which is to secure the triumph of Communism in the USSR. Eastern Siberia is unprecedentedly overabundant in the most valuable minerals and in natural resources of all kinds. The iron ores discovered here comprise more than 31 per cent of all deposits in the RSFSR; the region is also known to contain up to 80 per cent of the national coal reserves. In Eastern Siberia nature has created the most favorable conditions in the country for obtaining cheap electric power. The Siberian earth is rich in deposits of aluminum ores, non-ferrous and rare metals, graphite, mica and many other valuable minerals.

The utilization of Eastern Siberian wealth will bring about a considerable increase in the productivity of Soviet society. Technicians and technical personnel will be exceptionally important contributors to this result, as was especially emphasized in his opening address by the chairman of the organizational committee of the conference, Vice-President of the Academy of Sciences of the USSR, Academician I. P. Bardin.

We live, he said, in an era of technical revolution marked by the appearance of new sources of energy, new synthetic materials, new raw material processing techniques. Hence, the development of Siberian industry, transport and agriculture cannot be envisioned without the broad, intensive application of the latest, most advanced technology. In the case of the coal industry, this will be hydraulic extraction, and also the concentration of coal sulfides and ash in heavy suspensions and through centrifugal methods. A broad area of useful application may be found for concentration in boiling layers through the magnetized roasting of ores; in the chemical industry, the most efficient methods may be applied to the processing of various materials.

New techniques will also have to be applied in several other areas if we are to achieve maximum utilization of the multifarious natural resources of Siberia.

However, it must be borne in mind in this connection that the simultaneous utilization of all or almost all resources leads merely to the squandering of effort and funds invested in their extraction. As a result, the rates at which natural resources are utilized will be braked instead of accelerated. It is therefore important that resources be exploited with measured proportion, that the necessity be made clear for developing coal mining at the present time in the northern raions of the Tunguska and Lena fields, and that the working of the Aldan coal basin and the extraction of iron ores in the south of the Yakutsk ASSR be geared to each other. It remains also to be scientifically established that ways and means selected in accordance with the interests of the state as a whole, are highly effective technically and economically. The development of Eastern Siberia must be intimately geared to the development of the national economy of the USSR as a whole and, above all, to the development of eco-

nomic administrative raions contiguous to Siberia.

While engaged in the task of increasing the productivity of Eastern Siberia, Academician Bardin said, we must give a great deal of attention to the material welfare of the workers, to their living conditions and to the satisfaction of their cultural requirements. Scientific research institutions, especially the Siberian Department of the AS USSR, are called upon to play an extremely important part in the development of the Eastern Siberian production base. The organization of this department widens the possibilities for creative work by the scientific staffs of the Eastern branches of the AS USSR and, first and foremost, of the Eastern-Siberian subsidiary.

Academician A. A. Trofimuk, Deputy Chairman of the Siberian Department of the AS USSR, read a status report on the aims and prospects for the development of science in Siberia. In this krai, he reported, the greatest strides were taken by science in the post-war period. Numerous AS USSR subsidiaries and other scientific establishments have been set up and the activities of the local men of science have been organized. Of specially great significance are the creation of the Siberian Department of the AS USSR and the construction of extensive scientific centers in Novosibirsk and Irkutsk (there are 29 new scientific institutions operating in these cities). In addition, a geological institute and a forestry institute will be set up in Krasnoyarsk, and an institute for the diamond industry in Yakutsk. The Council (Soviet) on Expeditionary Research is to play an important part in the study of the productive potential of Siberia and the Far East. The construction and organization of the Novosibirsk scientific center, and also a plan for the construction of a similar center in Irkutsk, were discussed in greater detail by Academician S. A. Khristianovich.

The plenary session heard a report by the Deputy Chairman of the State Planning Committee (Gosplan) of the RSFSR, L. E. Grafov, on the prospects for the development of the economy of Eastern Siberia in the light of the seven-year plan for the development of the economy of the RSFSR. Comrade Grafov reported that the plan outlines as a priority the erection in Siberia of a series of new enterprises, industrial complexes in the mining, chemical, metallurgical and other branches of industry. The scale on which this work is to be undertaken may be judged from the fact that up to 20 per cent of all RSFSR capital investments to be assigned during the seven-year period, are destined for Eastern Siberia. As a result, the volume of gross production here during the period of 1957-1965 should increase by 4.1 times.

The creation of the unified power system (UPS) of Eastern Siberia will be of great importance not only to Siberia but for other raions as well which will also receive part of the power supply of this network. The prerequisite conditions are already present in many raions of Eastern Siberia for the electrification on an even greater scale than in other raions of the USSR of production processes in industry and other branches of the economy, which is indispensable for the rapid expansion of the krai economy.

A report was presented to the conference by AS USSR Corresponding Member V. I. Weitz on "Prospects for the Development of Power Supply in Eastern Siberia and Its Importance in the Creation of the Unified Power System of the USSR."

The report describes the huge strides taken by the USSR in the expansion of its power supply on the basis of the untapped power resources of Siberia.

It examines the peculiar features and prospects of Siberian electrification; it describes the basic tendencies of technical policy in the area of thermal and hydroelectric power plant construction in Siberia; it discusses basic aspects of the rational organization of Siberian power systems and

air incorporation into the UPS. The report dwells with particular analytic emphasis on the linking up of the Siberian PS with the UPS of the European part of the USSR. A great deal of attention was given at regional conferences to the scientific appraisal of mineral resources and to their prospective exploitation. P. A. Antropov, USSR Minister of Geology and Mineral Conservation, read a substantial report on the available reserves of these raw materials and on how they are to be tapped under Siberian conditions. He reminded his listeners that the rate of extraction of basic useful minerals was defined in Comrade N. S. Khrushchev's report to the Jubilee Session of the Supreme Soviet of the USSR in commemoration of the Fortieth Anniversary of the Great October Socialist Revolution.

The participants in the conference were naturally interested in the magnitude of the contribution that may be made by the Eastern raions in the exploitation of such minerals. In this connection, Antropov gave a detailed discussion of the state of the Eastern Siberian mineral raw material reserves and pointed out their potentialities. He also emphasized that it is up to the geologists as soon as possible to find deposits of several minerals indispensable to the development of several branches of industry, especially coking coal (the need for which is particularly increasing in connection with the forthcoming creation of an extensive metallurgical industrial complex in Eastern Siberia), oil, etc. There is reason to assume the presence here of oil and natural gas deposits, which may serve as sources for the petroleum and natural gas so necessary to the national economy. That it is correct to assume the presence of these fuels in the Eastern raions is attested to by the example of Canada, whose geological structure is very similar to that of Eastern Siberia. Canada for a long time was thought to be very poor in oil deposits, but over the last few years, however, has jumped to eighth place among the oil producing countries of the world.

The USSR Minister of Geology and Mineral Conservation touched in his report on the extremely important question of increasing the economic effectiveness of geological prospecting work and research (through more purposeful prospecting and discovery of the various forms of useful minerals). This must all be achieved through improved planning and selection of correct avenues of geological prospecting work.

The size of known mineral reserves in the USSR is currently such as to make unnecessary the complete exploration and measurement of this or that newly discovered deposit, and to allow such work to be limited in the main to geological mapping and, at the same time, to establishing which are the most promising mineral zones and provinces in our country. Thus, geological work will perforce be so scheduled and conducted as to yield optimum results in the shortest possible time.

The reports read and recommendations adopted at the conference are of very important significance. They essentially constituted a unique examination by experts in the theoretical and applied sciences and in social fields, and they corrected and adjusted the rough draft of the seven-year plan for the economic development of Siberia.

In addition to theoretical and practical workers from ministries and planning agencies, reports were read at the conference by A. A. Kokarev, Secretary of the Krasnoyarsk CPSU Krai Committee, A. I. Kozlov, Secretary of the Chita CPSU Oblast Committee, V. V. Mityushkin, Secretary of the Irkutsk CPSU Oblast Committee, S. K. Toka, Secretary of the Tuva CPSU Oblast Committee, A. U. Khakhalov, Secretary of the Buryat CPSU Oblast Committee, and S. N. Shchetinin, Secretary of the Irkutsk CPSU Oblast Committee.

Comrade Shchetinin read a report on "The Natural Economic Resources and Prospects for the Economic Development of the Irkutsk Oblast." Besides his description of the economic changes that have taken place in the post-war period, he went into a far-reaching analysis of the prospects for the development of its productive potential. Defining these prospects, he pointed out that the exploitation of the natural resources of the oblast should be so organized as to achieve a maximum effect on the national economy. The unique hydromotive potential of the Angara river and the low cost fuel offered by the Irkutsk coal-fields are the chief factors favoring the further industrialization of the oblast. If in highly industrialized areas the construction of electric power stations is necessary for the supplying of power to already existing industry, then in Irkutsk oblast the organization of the UPS will be a vital stimulus to development of the area, and the low-cost hydromotive power will determine the type and extent of productive specialization of the region.

The development of industry in the oblast is accompanied by a significant population growth: in the next 10-15 years it should increase 1.5-2 times. In this connection, the farm industries of the oblast will have to increase their output of farm products to a level at which it will be able fully to satisfy the growing needs of the population. At the same time, industrial expansion and urban population growth make necessary the correct deployment of agricultural production installations over the territory of the oblast, the bringing of more land under cultivation and into use as pasture by uprooting, ploughing under or burning of sparsely wooded areas, and also by draining and putting to use swamp-meadow tracts.

Comrade Shchetinin's report, as well as those of the other Party leaders of Eastern Siberian oblast CPSU committees, appraises the local natural and economic resources and shows the growth of productivity in the Eastern oblasts of the country. On the basis of the data presented in these reports, it may be said with confidence that the economic administrative raions of Eastern Siberia have everything they need to fulfill within a short time the tasks assigned by the Party and the government towards the industrialization of the Eastern raions and the mobilization of their natural wealth.

In all the above-mentioned reports, the thought stood out that the correct interraion organization of economic ties, based on a suitable division of labor among them, will permit all these raions of Eastern Siberia to cope successfully with their assigned tasks aimed at increasing the productivity of the East of the country.

The following reports were also read in plenary session: Academician I. P. Bardin on "The Outlook for the Development of Ferrous Metallurgy in Eastern Siberia," L. A. Kostandov, Deputy Chairman of the State Committee on Chemistry of the Council of Ministers of the USSR, on "The Outlook for the Development of the Chemical Industry in Eastern Siberia," K. V. Nikulin, Member of the Academy of Construction and Architecture of the USSR, on "The Development of the Construction and Building Materials Industries in Eastern Siberia," T. S. Khachaturov, Corresponding Member of the AS USSR, on "The Complex Development of Transportation in Eastern Siberia," E. I. Sholokhov, Deputy Director of the Agricultural Department of the RSFSR State Planning Commission, on "The Present State and Prospects for the Development of Agriculture in Eastern Siberia," Doctor of Economic Sciences P. V. Vasiliev on "Improvements Required in Eastern Siberian Forestry and Outlook for the Industrial Utilization of the Region's Timber Resources," and Doctor of Economic Sciences A. E. Probst on "Basic Aspects of the Development of the Fuel Industry of Eastern Siberia."

In addition, dozens of reports and accounts were read before sessions of several sections (on geology, fuels, ferrous and non-ferrous metal industries, power supply, the chemical, construction and building industries, non-metallic minerals, agriculture, transport, the machinery industry, forestry, etc.), in which problems relating to the development of the productive resources of Eastern Siberia were analyzed in detail. The organization of a section on complex raion and interraion problems was a highlight of the conference. In his closing address, Academician V. S. Nemchinov, Chairman of the Council for the Study of Productive Resources of the AS USSR, reported on the results of the work of the conference and of its preceding regional discussions.

Several conclusions of great significance may be drawn from the results of the work of the conference, he said, conclusions based on the thorough, exhaustive discussion of every aspect of the development of the productive resources of Eastern Siberia.

Eastern Siberia possesses adequate raw material resources and presents conditions favorable to the creation during the period 1959-1965 of the first centers of a ferrous metal industry, comprising a third metallurgical industry base for the USSR as a whole. The Angaro-Ilimsk and Angaro-Pitsk iron ore deposits constitute a reliable source of raw material for a metals industry in Western and Eastern (Hither-Baikal region) Siberia. Eastern Siberia possesses raw material resources adequate to support a fourth metallurgical industry base in the Trans-Baikal region.

An outstanding role has been assigned for Eastern Siberia in the accomplishment of the basic economic goals of the USSR (in the area of raising per capita electric power output). Academician V. S. Nemchinov reported on just what exactly is contemplated under the general plan: The Yenisei Hydroelectric Power Plant will have unique engineering characteristics — in power and output it will exceed the corresponding characteristics of the Volga rapids, while its construction will require 3.5 times less capital investment and it will supply power 4-5 times more cheaply than the Volga power plants. Several other hydroelectric power plants along the Angaro-Yenisei rapids are also to be very well engineered.

The Irkutsk conference demonstrated the advantageousness and prospective scientific feasibility of the provisions in the decisions of the XX Congress of the CPSU for the creation in Eastern Siberia of large scale coal mining and electric power generating facilities, and of a manufacturing complex based on thermal and electric power. The Angaro-Yenisei region of Siberia offers extremely favorable conditions for the creation of such a complex.

The low rate of capital investment per kilowatt and the low cost price of electric power, both hydraulic and thermal, predetermines the concentration in this raion of the electric-powered smelting of aluminum, titanium and magnesium, and the turning out of a wide assortment of all kinds of chemical materials — from plastics to synthetic rubber. Exceptionally favorable conditions are present in some raions of Eastern Siberia for setting up electric blast-furnace operations (one kw-hr of electric power here costing no more than 0.25-0.35 kg of coke).

The presence of huge power resources and of primary raw materials indispensable for chemical processing, will permit the development in Eastern Siberia of a massive chemical industry requiring ample sources of power supply. The construction of refineries for processing oil piped in from the Bashkir oil fields will provide the chemical industry of Eastern Siberia with hydrocarbon raw materials. The seven-year plan already envisions the construction of a series of large plants for the production of synthetic fibres,

plastics and other synthetic polymers, as well as of mineral fertilizers.

Extremely favorable conditions will be created in Eastern Siberia for the development of a basic chemical industry and of wood-pulp and coal chemistry industries. These facilities will produce acetylene by the electric cracking of hydrocarbon gases, viscose, high grade tire cord, paper and cardboard, nutrient yeast, ethyl alcohol, furfural for plastics and building blocks, dextrose and other valuable products.

Due to its mineral wealth, Eastern Siberia will become one of the leading regions of the country in the production of non-ferrous metals, diamonds and several non-metallic minerals. Most of the mineral deposits here are heterogeneous in composition. It is hence advisable in Eastern Siberia to provide facilities for breaking down ores to their constituent components, which will greatly reduce the cost of extracting the very valuable metals in which the Eastern regions so richly abound. All this requires the drawing in the immediate future of rational technological plans and schedules for specific deposits.

Plans must also be made in the immediate future for complex utilization of the Eastern Siberian forest tracts which are 2.5 times as extensive as the timber reserves of all Europe. The draft project of the seven-year plan for 1959-1965 already provides for a considerable upturn in exploitation of the Siberian forests, which will become an important source of domestic lumber supply and will also contribute to the increasing demands of export. In this connection it is indispensable that the backwardness of the wood-processing industry be eliminated. The inadequate progress being made by this industry, and especially by the chemical processing branch, will result in great wastage of raw wood stocks. It is therefore important that large-scale lumbering and wood-processing combines be set up, where the wood will be fully processed by up-to-date methods. This will make possible a significant increase in the output of veneers, carton, paper and nutrient yeast per cu. m. of felled timber.

Special pains will have to be taken to ensure that log shipments transported by floating them in the channels of the large reservoirs are delivered in accordance with pre-established schedules.

If the exploitation of the valuable natural wealth of Siberia is to proceed efficiently, the construction of transport facilities will have to be accelerated as soon and as rapidly as conceivably possible. Only through the intensive construction of railroads and highways, the laying down of pipelines and the development of air transport, will it be possible to rationally distribute and allocate the industrial and motive power output of Siberia. It is exceptionally important that navigational conditions up the great Siberian rivers — the Yenisei, Lena and their tributaries — be improved.

All conditions are present in Eastern Siberia for the growth of a mighty base of marketable grain production and livestock breeding. The enormous variety of natural conditions here demands that farming plans for the various raions of Eastern Siberia be scientifically elaborated as soon as possible.

Powerful territorial production complexes are arising in Eastern Siberia, whose development must proceed on the basis of clear-cut, scientifically justified specialization and division of labor, on the Eastern Siberian scale. Apart from those complexes which are already developing, the Irkutsk, Cherekhov, Central Krasnoyarsk and Bratsko-Taishevo complexes, the most promising ones are the Nizhne-Aldan (Lower-Angara) and Aldan-Chulmansk industrial complexes, with their enormous mineral resources. It

ended during the next seven years to erect a large-scale Eastern-Yakutsk industrial complex (in connection with the diamond industry and natural gas extraction and processing). In the more distant future, a North Siberian railway and an extension of the South Siberian trunk line will link up several other raions.

The basic trends of specialization were decided upon at the conference, based on the need for the development in Eastern Siberia of road building, mining, wood-processing, chemical machinery construction and electric power. The machinery industry of Eastern Siberia will be supplied with steel, rolled products, castings and forgings of local manufacture, and Siberia will export machinery and equipment to the countries of South-East Asia.

Academician Nemchinov said in conclusion that the conference had pointed up the possibility of vigorous industrial, power supply and transport construction in the Eastern raions of the country. The conference will help economists to comprehend the majesty of the Siberia of the future, of its great tomorrow. It is a great honor to work creatively for its future.

The resolutions adopted by the conference make extensive recommendations on all key problems involved in the development of the productive potential of Eastern Siberia. The conference acknowledged the necessity for bringing a certain degree of order and system into this process, with special emphasis on the optimum effectiveness of capital investments intended for the exploitation of the natural resources of Eastern Siberia.

It was also recommended, based on the possibilities of power supply development and the geographical conditions prevalent in each raion, that the construction of high capacity thermal stations operating on cheap coal be combined with the construction of large hydroelectric stations. The conference labeled as urgent the task of creating a third metallurgical industry base in the Eastern part of the country, noting the advisability of erecting the first centers of such a base during 1959-1965, particularly a metallurgical plant in Taishet. At the same time, the conference concluded that the resources of Eastern Siberia are also fully adequate for the creation of a fourth metallurgical base for the USSR in the Transbaikal region.

The need was also noted for organizing new effective reining methods, for the full utilization of the entire complex of useful ore constituents. The realization of an extensive program for the utilization of Eastern Siberian resources requires the improved organization and more assiduous pursuit of geological prospecting for coking coal, iron, manganese, titanium ores, aluminum and chemical raw materials, petroleum, natural gas, gold, mica and other valuable minerals. Geologists and prospectors have the important job of establishing as soon as possible the pattern of distribution of basic minerals in the Eastern Siberian territory, especially of those the lack of which is holding up the development of the productive potential of the krai.

The conference recommendations give great importance to problems of transportation, due to the need for correcting in the near future the inadequacy of Eastern Siberian transportation to meet the increasing demands of industry, agriculture, the growing traffic load, both domestic and foreign (with China, Korea and Mongolia). This requires the extensive expansion of every form of transportation, of the ways most of all.

With a view to insuring rapid technical progress in all areas of the national economy of Eastern Siberia, the conference adopted detailed recommendations for the effective dissemination of new techniques, technology and advanced

processes in ore processing and in the coal and chemical industries.

The conference also helped to uncover several defects in the solution of economic problems bearing on the development of the productive potential of Eastern Siberia. Among these was, especially, inadequate attention to such an important factor as the study of Eastern Siberian labor resources which, in turn, affected the drawing up of a balance sheet of available labor reserves.

All the recommendations, worked out as a result of creative discussion of important problems involved in the economic development of Eastern Siberia, convincingly show that the orderly utilization of the unique natural wealth of the Siberian East, together with the resources of the other raions of our country on the basis of scientifically grounded decisions, will promote the further development of the material and production base of Communism.

V. Nazarov:

Research Work by Economics Instructors of Irkutsk

In Irkutsk, where before the October Revolution there was not one single VUZ (i.e., college), there are now eight institutions of higher learning, including a state university. Several members of the faculties of political science and instructors of specific courses in economics at these schools are doing research and, in collaboration with miners, metallurgists, geologists and other specialists, are participating in the working out of problems bearing on the development of Eastern Siberia and the Far East.

Lecturer V. Karpov, director of the faculty of political economy of the Institute of Mining and Metallurgy, is studying problems of the industrial development of the Irkutsk oblast. He has recently been tying his investigations in with the tasks which the Sovnarkhoz (Council of the National Economy), the oblast planning administration and other local agencies. Studying the forestry and wood processing industries of the oblast, Comrade Karpov discovered a considerable disproportion between them: large quantities of wood were being shipped out of the oblast in an unfinished state, which was leading to the unnecessary overloading of transport facilities and sizeable losses. The sovnarkhoz is now taking measures to eliminate this disproportion.

Several teachers at Irkutsk VUZes are doing research on ways in which production costs may be reduced in various branches of industry. Noteworthy results have been achieved in this by the faculty of political economy of the Institute of Finance and Economics. Its members are conducting a complex operation: S. Gaidachuk is bringing to light factors involved in the reduction of production costs in the forestry industry, V. Kosyachenko in the building industry, L. Yakimchik in light industry. The director of the faculty, Lecturer I. Shaferman, has compiled a large volume of factual material on the reduction of production costs for Cheremkhovsk coal. On the basis of his calculations, he proposes to achieve this end by considerably increasing the output of Cheremkhovsk coal by the open-pit method. According to the author's data, the economies resulting from the reduction of production costs, will fully offset even the additional investments necessary to expand open-pit operations.

A group of members of the faculty of production organization and economics of the Institute of Mining and Metal-

lurgy studied the extent to which the rolling stock of the Cheremkhovsk coal fields were being utilized. The result was that technically practicable norms were computed in detail for equipment performance and labor input. After discussion with the producers, part of the proposals were successfully put into practice in the production process. On the basis of his investigations, Lecturer D. Klimov wrote an article "Ways to Improve Rolling Stock Performance in Open-Pit Operations in the Cheremkhovsk Coal Fields," which was accepted for publication by the Irkutsk branch of the Academy of Sciences of the USSR.

Another instructor on this faculty, V. Arkhangelsky, worked on the problem of how to increase production output at the Irkutsk mica factory, which processes a significant portion of the mica mined in the USSR. The new economical method for making full use of the raw mica was approved and put into practice.

Members of the faculties of political economy at Irkutsk VUZes are giving a great deal of attention to problems of agricultural economy. Prof. Sherstoboyev, for example, is studying the agriculture of the Angaro-Ilimsk-Lena area. The development of agriculture in this region is acquiring exceptional significance in connection with the erection in Eastern Siberia of new industrial centers, the populations of which will have to be supplied with potatoes, vegetables and also meat products from livestock. Professor Sherstoboyev has proposed a series of measures to accelerate the rapid solution of this problem (the creation of experimental stations to study local farming conditions and of mechanized

ground-clearing stations to prepare plots for sowing). Sherstoboyev's work has been published in the *Transactions of the Institute of Finance and Economics*.

Lecturer I. Tregubov studied problems of expanding production and increasing accumulation on the kolkhozes of the Alarsk raion and Irkutsk oblast, and also aspects of the calculation of production costs on the Dzerzhinsk sovkhov. Political assistance was rendered to kolkhozes in the computation of production costs. The material resulting from a lengthy study of kolkhoz and sovkhov practice has been generalized by the author into a printed work on "Expanding Production and Accumulation on Kolkhozes."

Economic literature has left almost untouched the history of the development of the various branches of Eastern Siberian industry. A group of teachers on the faculties of political economy of the Irkutsk VUZes has set itself the task of filling this gap. The works of A. Borzov on "The Salt Industry of Eastern Siberia" and "The Development of the Gold Industry of Eastern Siberia," V. Vlasov's work on "The History of Trade Capital in Eastern Siberia," the article by Basharov on "The Socio-Economic History of Tuva" and work by Lecturer P. Sokolov, "A Brief Outline of the Economy of the Irkutsk Oblast" have been published.

Experience shows that research work by teaching personnel has a beneficial effect on the teaching process, above all on the quality of lectures. This bespeaks the need for wider attraction of teacher-economists in Irkutsk to active participation in the working out of important problems of the national economy.

FILED IN SLACKS

Announcing a Pre-Publication Offer

THREE SOVIET JOURNALS

IN ENGLISH TRANSLATION

● FOREIGN TRADE

(Vneshniaia Torgovlia, Journal of the USSR Ministry of Foreign Trade, twelve issues per year, complete translation)

● PROBLEMS OF PHILOSOPHY

(Voprosy Filosofii, Journal of the Institute of Philosophy, USSR Academy of Sciences, twelve issues per year, complete translation of major articles)

● PROBLEMS OF LITERATURE

(Voprosy Literatury, Journal of the Association of Writers of the USSR and the Institute of World Literature, USSR Academy of Sciences, twelve issues per year, complete translation of major articles)

These three primary sources of major significance will be available serially for the first time in English beginning July, 1959.

Subscribers who place orders prior to July 1, 1959 are entitled to pre-publication rates.

Journal	Pre-pub. Rates	Probable rates After July 1, 1959
Foreign Trade	\$ 35.00	\$ 40.00
Problems of Philosophy	35.00	40.00
Problems of Literature	35.00	40.00

(Offer conditional upon subscriber response)

COMPLETE TRANSLATIONS CURRENTLY AVAILABLE:

SOVIET EDUCATION (Sovetskaya pedagogika) — Monthly journal of the RSFSR Academy of Pedagogical Sciences, \$70.00 per year (12 issues)

ORDER FROM:

INTERNATIONAL ARTS AND SCIENCES PRESS
33 WEST 42ND STREET, NEW YORK 36, N.Y.